Air Quality Permitting
Statement of Basis

February 8, 2005

Permit to Construct No. P-040101

Interstate Concrete and Asphalt Company, Rathdrum

Facility ID No. 055-00048

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AIR QUALITY DIVISION

FINAL PERMIT

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Acronyms, Units, And Chemical Nomenclatures

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gr/dscf	grain (1 lb = 7,000 grains) per dry standard cubic foot
HAPs	Hazardous Air Pollutants
HMA	hot mix asphalt
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
Interstate	Interstate Concrete and Asphalt Company
lb/hr	pound per hour
MACT	Maximum Achievable Control Technology
MMBtu/hr	million British thermal units per hour
NAAQs	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	Operation and maintenance
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
RAP	Recycled asphalt pavement
RCRA	Resource Conservation and Recovery Act
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide
TAP	toxic air pollutant
T/hr	tons per hour
T/yr	tons per year
$\mu g/m^3$	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this statement of basis is to satisfy the requirements of IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho*, for issuing permits to construct.

2. FACILITY DESCRIPTION

The Interstate Concrete and Asphalt Company (Interstate) proposes to construct a hot-mix asphalt (HMA) plant at 8849 W. Wyoming Avenue, which is located 0.5 mile west of Highway 41 in Rathdrum. The plant is to be identified as the Wyoming Plant.

In the HMA plant, stockpiled aggregate is transferred to eight cold feed bins. Aggregate is dispensed from the bins onto slow moving feeder conveyors, which transfer the aggregate to the dryer. Recycled asphalt pavement (RAP) material is transferred from stockpiles to a live bottom bin. The bin feeds onto a conveyor to a lump breaker. From the lump breaker, a conveyor feeds the RAP material to the dryer where both aggregate and RAP are heated in the dryer. Aggregate and RAP travel through the rotating drum dryer counter current to the heating media. The material is then heated and dried and mixed with liquid asphalt cement. The resulting HMA is then conveyed to hot storage bins until it can be loaded into dump trucks for transport off site or transferred via a conveyor to silos for temporary storage.

This PTC is for a new CMI HMA plant, rated at 400 T/hr. Particulate matter emissions from the HMA plant are controlled by a baghouse.

3. FACILITY / AREA CLASSIFICATION

Interstate is classified as a synthetic minor facility because enforceable operational limits limit the facility's potential to emit to less than Tier I operating permit major source thresholds. The AIRS facility classification is "SM80" because the facility's potential to emit is within 80% of the Tier I operating permit major source threshold level for a criteria air pollutant. The SIC defining this facility is 2951.

The facility is located within AQCR 62 and UTM zone 11. The facility is located in Kootenai County which is designated as unclassifiable for all criteria pollutants (PM_{10}, CO, NO_X, SO_2, lead, and ozone).

The AIRS information provided in Appendix B lists the classification for each regulated air pollutant at this facility. This required information is entered into the EPA AIRS database.

4. APPLICATION SCOPE

Interstate submitted a PTC application for the construction of a new HMA plant with the following parameters:

- The maximum hourly production rate of the HMA plant is 400 T/hr.
- The HMA plant will be configured with recycled asphalt pavement (RAP) equipment.
- The annual production rate of the HMA plant is limited to 1,480,000 tons per any consecutive 12-month period (T/yr)
- The annual hours of operation of the HMA plant is limited to 3,700 hours per any consecutive 12-month period (hr/yr).
- Natural gas, liquefied petroleum gas (propane), No. 2 diesel fuel oil, and used oil are the fuel types allowed to be burned in drum dryer.

4.1 Application Chronology

January 26, 2004	DEQ received an application from Interstate for a permit to construct. The permit number assigned for this project was PTC No. P-040101.
February 24, 2004	DEQ determined the P-040101 application complete.
March 5, 2004	Interstate requested to review a draft of PTC No. P-040101 prior to the final issuance.
March 8, 2004	Interstate submitted additional information to DEQ.
March 22 and March 26, 2004	Interstate submitted additional modeling information to DEQ.
April 21, 2004	DEQ sent Interstate a copy of draft PTC No. P-040101 for review.
April 29, 2004	DEQ received an email from Interstate in which the company requested to extend issuance of the final PTC until July of 2004. The reason for this is that the new HMA plant is currently in Montana and will not be back to Rathdrum facility until July or August of 2004.
June 1, 2004	A public comment period started on June 1, 2004, and ended on June 30, 2004. Comments were received from a citizen. The comments and DEQ's response to the comments are included in Appendix E of this statement of basis.

5. PERMIT ANALYSIS

This section of the statement of basis describes the regulatory requirements for this PTC action.

5.1 Equipment Listing

Hot-mix Asphalt Plant

Manufacturer: CMI PTD-400
Type of HMA plant: Drum mix
Maximum hot-mix asphalt production rate: 400 T/hr
HMA burner fuel type: Natural gas, propane, ASTM Grade 2 fuel oil, and used oil

Baghouse

Manufacturer: CMI
Model: RA3-18P
Drum dryer maximum rated heat input capacity: 120 MMBtu/hr

This permit adds equipment associated with the use of RAP in the HMA plant process, including an additional four bins, a lump breaker, and two conveyors.
Maximum rated heat input capacity: 120 million British thermal units per hour (MMBtu/hr)

5.2 Emissions Inventory

Emissions estimates were provided by Aspen Consulting and Engineering (Aspen) and are included in the PTC application materials submitted to DEQ on January 26, 2004. Appendix A of this statement of basis contains the emissions estimates for particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), carbon monoxide (CO), sulfur dioxide (SO_2), volatile organic compounds (VOC), and oxides of nitrogen (NO_x) that were provided by the facility and are shown in Table 5.2.1. Toxic air pollutants (TAPs), and hazardous air pollutants (HAPs) emissions estimates that were provided by the facility are shown in Appendix A of

this document. Emissions estimates of PM, PM_{10}, CO, SO_2, VOC, NO_x, TAPs, and HAPs from the HMA plant dryer at the facility were obtained from emission factors described in U.S. EPA's Compilation of Air Pollutant Emission Factors, AP-42, Section 11.1, Hot Mix Asphalt Plant, 12/00. The hourly emission rates were estimated using the maximum HMA production rate of 400 T/hr. The annual emissions rates were determined based on HMA production limit of 1,480,000 T/yr and operations of 3,700 hours per any consecutive 12-month period.

Table 5.2.1 POTENTIAL EMISSIONS[a] FROM THE HMA PLANT DRYER

Source Description	PM[b]		PM_{10}[c]		CO[d]		NO_X[e]		SO_2[f]		VOC[g]		Pb[h]	
	lb/hr	T/yr	Lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
HMA drum mix dryer stack	13.2	24.42	9.20	17.02	52.00	96.20	22.00	40.7	23.20	42.92	12.8	23.68	0.006	0.011

[a] Emissions were determined by using emissions factors from AP-42, Section 11.1, Hot Mix Asphalt Plants and process limits (e.g. throughput and hours of operation)
[b] Particulate matter
[c] Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
[d] Carbon monoxide
[e] Nitrogen oxides
[f] Sulfur dioxide
[g] Volatile organic compound
[h] Lead

It should be noted that Interstate will use cold aggregate and RAP in the HMA process. Although the percentage of RAP use will vary, Interstate plans an equal swap of RAP for cold aggregate. As a result, no PM emissions increase will occur as explained below.

RAP emissions are discussed in two sections in AP-42, Section 11.1 for Hot Mix Asphalt Plants. Section 11.1.1.3, Counterflow Drum Mix Plants, states, *"...A counterflow drum mix plant can normally process RAP at ratios up to 50 percent with little or no observed effect upon emissions."* Section 11.1.2.2, Parallel Flow Drum Mix Plants, states, *"...Although it has been suggested that the processing of RAP materials at these type plants may increase organic compound emissions because of an increase in mixing zone temperature during processing, the data supporting this hypothesis is very weak. Specifically, although the data show a relationship only between RAP content and condensible organic particulate emissions, 89 percent of the variations in the data were the result of other unknown process variables."* Additionally, none of the emission factor tables in Section 11.1, AP-42 differentiates between aggregate types and RAP. The emission estimates for this permitting action are based on AP-42 emission factors. The calculations do not show an increase in emissions from the using of RAP in the process line.

Also, the use of used oil in the dryer will not result in increase of PM or PM_{10} emissions, as indicated in AP-42, Table 11.1-3 footnote (g), pertaining to the particulate matter emissions, as follows; "drum mix dryer fired with natural gas, propane, fuel oil, used oil, and coal. The data indicate that fuel type does not significantly effect PM emissions." Therefore, the PM and PM_{10} emissions estimates for the facility are not expected to increase as a result of the additional types of fuel.

From AP-42, for all other pollutants, the emission factors for each type of fuel were compared, and the highest value for each pollutant was used to calculate the estimated emissions.

The TAPs and HAPs emissions in the permit application were also based on processing of HMA of 1,480,000 T/yr and on operations of 3,700 hours per any consecutive 12-month period. Potential emissions of any single HAP were estimated to be less than 10 T/yr. Potential emissions for two HAPs or more were estimated to be 7.1 T/yr, which are well below the major source threshold of 25 T/yr for a combination of two HAPs or more – refer to Appendix A.

These emissions calculations provided the basis for the emissions limits for CO from the HMA plant dryer stack. They also provided the basis for CO, SO_2, and NO_x, compliance with the National Ambient Air Quality Standards (NAAQS) and the TAPs increment analyses – see Appendix B of this document for modeling analysis.

Detailed emissions estimates are included in Appendix A of this statement of basis. It should be noted that the point source information contained in this table was used to determine the processing fee assessed in accordance with IDAPA 58.01.01.225.

5.3 Modeling

Refer to the modeling review memorandum contained in Appendix C of this statement of basis for a discussion of the air dispersion analysis conducted for this project. Based on the modeling review memorandum, DEQ has determined that emissions of CO, SO_2, and NO_2 from the facility have been successfully demonstrated to not cause or significantly contribute to violations of NAAQs. The PM_{10} emissions were not modeled, because the net PM_{10} emissions decreased as a result of replacing the dryer at the facility. Section 2.0 of DEQ's Air Quality Modeling Guideline states: "A modeling analysis is generally required with each permit application for new construction or a modification that results in an increase in emissions of pollutants for sources permitted by DEQ."

The modeling results for the CO, SO_2, and NO_2 are summarized in Table 5.3.1.

Table 5.3.1 CO, SO_2, AND NO_2 AMBIENT IMPACT ANALYSIS RESULTS

Pollutant	Averaging Period	Facility Ambient Impact ($\mu g/m^3$)[a]	Background Concentration ($\mu g/m^3$)[a]	Total Ambient concentration ($\mu g/m^3$)[a]	NAAQS[b] ($\mu g/m^3$)[a]	Percent of NAAQS[b]
CO	1-hour	349.4	3,600	3,949.4	40,000	9.9
	8-hour	105.0	2,300	2,405.0	10,000	24
SO_2	3-hour	75.4	34	109.4	1,300	8.4
	24-hour	18.6	26	44.6	365	12.2
	Annual	0.75	8	8.75	80	10.9
NO_2	Annual	0.72	17	17.72	100	17.7

[a] Micrograms per cubic meter
[b] National Ambient Air Quality Standards

The TAPs emissions that exceeded the screening emission limits of IDAPA 58.01.01.585-586 are modeled and are included in Appendix C of this statement of basis. A summary of the modeled TAPs are included in Table 5.3.2 below. All TAPs emissions from this facility show compliance with the TAPs increments in accordance with IDAPA 58.01.01.585-586.

Table 5.3.2 TOXIC AIR POLLUTANT AMBIENT IMPACT RESULTS

Pollutant	Modeled Concentration ($\mu g/m^3$)[a]	Toxic Air Pollutant Standard ($\mu g/m^3$)[a]	Percent of Toxic Air Pollutant Standard
2,3,7,8-TCDD	4.0E-11	2.2E-8	0.18
Acetaldehyde	1.7E-2	0.45	3.8
Arsenic	6.5E-6	2.3E-4	2.8
Benzene	5.1E-3	0.12	4.3
Benzo(a)pyrene	6.5E-6	3.0E-4	2.2
Cadmium	6.5E-6	5.6E-4	1.2
Chromium	1.98E-3	25	0.008
Formaldehyde	4.0E-2	0.077	51.9
HCl	0.076	375	0.02
Chromium VI	6.5E-6	8.3E-5	7.8
Nickel	8.2E-4	4.2E-3	19.5
Phosphorus	0.01	5	0.2
Propionaldehyde	0.047	21.5	0.21
Quinone	0.057	20	0.29

[a] Micrograms per cubic meter

5.4 Regulatory Review

This PTC is subject to the following permitting requirements:

IDAPA 58.01.01.201..... Permit to Construct Required

Interstate proposes to construction a stationary source that does not qualify for a PTC exemption in any of Sections 220 through 223 of the Rules. Therefore, a PTC is required.

IDAPA 58.01.01.203..... Permit Requirements for New and Modified Stationary Sources

All PTC applications are required to demonstrate compliance with the terms of IDAPA 58.01.01.203. This section of the Rules requires that Interstate demonstrate that emissions from the new HMA drum mix dryer will comply with all applicable emissions standards, and will not cause or significantly contribute to a violation of any ambient air quality standard.

IDAPA 58.01.01.205..... Permit Requirements for New Major Facilities or Major Modifications in Attainment or Unclassifiable Areas

This facility does not emit or have the potential to emit any regulated PSD pollutant at major source threshold levels. Therefore, PSD permitting requirements do not apply.

IDAPA 58.01.01.209.01.c Opportunity for Public Comment

This PTC is subject to the provisions of IDAPA 58.01.01.209.01.c. An opportunity for public comment on the PTC application was provided, in accordance with IDAPA 58.01.01.209.01.c., during which time, comments were received from a citizen. DEQ provide the proposed PTC for a formal public comment period in accordance with IDAPA 58.01.01.209.01.c. The public comments period started from June 1, 2004, and ended on June 30, 2004. Responses to the comments are provided in Appendix E of this statement of basis.

IDAPA 58.01.01.210..... Demonstration of Preconstruction Compliance with Toxic Standards

The TAPs emissions resulting from burning of natural gas, propane gas, No. 2 fuel oil, and used oil in the HMA drum dryer were estimated. Appendix A of this document contains all TAPs emissions from the HMA drum dryer. All TAPs emissions from the dryer were demonstrated to meet the requirements specified in IDAPA 58.01.01.210. Refer to the modeling review memorandum in Appendix C of this document.

IDAPA 58.01.01.212..... Obligation to Comply

Receipt of this PTC does not relieve Interstate from the responsibility to comply with all federal, state, and local rules and regulations.

IDAPA 58.01.01.225..... Permit to Construct Processing Fees

The combined emissions increase from this project is subject to the fee provisions of IDAPA 58.01.01.225, and Interstate was assessed a PTC processing fee of $7,500.00 for an increase in emissions of 220.52 T/yr. The processing fee was paid May 28, 2004.

IDAPA 58.01.01.577..... Ambient Air Quality Standards for Specific Air Pollutants

Ambient air quality modeling predicts this facility will not cause or contribute to a violation of any applicable ambient air quality standard. The modeling analysis is presented in Appendix C.

IDAPA 58.01.01.625..... Visible Emissions Limitation

Emissions from all stationary point sources in the state of Idaho are required to comply with the opacity standards of IDAPA 58.01.01.625-626, unless exempted under Section 625.01. The HMA drum mix dryer stack at the facility is subject to this standard.

IDAPA 58.01.01.650..... Rules for the Control of Fugitive Dust

All stationary sources are required to comply with the fugitive dust prevention requirements of IDAPA 58.01.01.650-651.

40 CFR 60 Subpart I..... Standards of Performance for Hot Mix Asphalt Facilities

This subpart is applicable to the HMA plant facility and to the RAP processing system according to 60.90 (a), as follows: "*(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart a hot mix asphalt facility is comprised only of any combination of the following: dryers, systems for screening, handling, storing, and weighing hot aggregate, systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt, and the loading, transfer, and storage systems associated with emission control systems.*" Also, per 60.90(b), the HMA plant dryer and the RAP system are a facility that "*commences construction or modification after June 11, 1973.*"

Section 60.92, Standard for particulate matter, states: *(a) On and after the date on which the performance test required to be conducted by 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which: (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf). (2) Exhibit 20 percent opacity, or greater.*

The loading, transferring, and storing systems associated with the HMA plant facility are subject to the opacity testing requirement specified in 40 CFR 60.8, 60.92(a)(2), and 60.93(b)(2). 40 CFR 60.93(b)(2) specifies that Method 9 and the procedures in 60.11 be used to determine opacity. Permit Conditions 2.3 and 2.4 incorporate the 40 CFR 60.92 requirements. Permit Condition 2.19 requires testing. Permit Condition 2.21 recommends that a test protocol be submitted prior to testing and Permit Condition 2.22 requires that the test results be submitted to DEQ within 30 days after the date that the testing is concluded.

In addition to the testing required by Subpart I, the facility is required to test the affected facility for particulate emissions and visible emissions at least once every five years.

40 CFR 60 Subpart OOO ..... Standards of Performance for Nonmetallic Mineral Processing Plants

Subpart OOO does not apply to the HMA facility or to the RAP equipment

The section for applicability and designation of affected facility, 60.670 (a)(1), is as follows: *"Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart."*

"(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart."

Section 40 CFR 60.670(a)(1) above does not apply to the RAP in this PTC. Section 40 CFR 60.670(a)(1) specifically applies to crushers and grinding mills (and subsequent facilities). This permit

application does not include a RAP crusher or grinding mill. It has a lump breaker. The RAP is crushed at a separate facility prior to processing at this facility. The lump breaker at this facility breaks up clumps of conglomerated RAP to a size that is fed onto a conveyor. Oversize stone is rejected, not crushed, by the system. A February 27, 2004, letter from Interstate to DEQ, in which the company submitted additional information for PTC No. P-040101, shows an example of a RAP breaker. That letter is provided in Appendix A of this document. Clearly, the lump breaker is not a crusher, and therefore, Subpart OOO is not applicable to the lump breaker.

In addition, this facility is subject to Subpart I, and, per Subpart OOO (b), Subpart OOO is not applicable to facilities, which are subject to Subpart I.

40 CFR 279 ..... Standards for the Management of Used Oil

Part 279.11 contains specifications for used oil which include allowable levels for arsenic, cadmium, chromium, lead, the flash point, and total halogens. The limit for total halogens is listed at 4,000 ppm maximum. However, used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under § 279.10(b)(1). Such used oil is subject to subpart H of part 266 of this chapter rather than this part when burned for energy recovery unless the presumption of mixing can be successfully rebutted. According to Interstate Concrete and Asphalt Company, the used oil that is used by the facility does not contain total halogens greater than 1,000 ppm, so, as agreed with the facility, the permit limits the total halogens to 1,000 ppm.

Permit Condition 2.9 states that, in accordance with 40 CFR 279.11, used oil burned for energy recovery shall not exceed any of the allowable levels of the constituents and property listed in Table 2.2.

TABLE 2.2 USED OIL SPECIFICATIONS[1]

Constituent/property	Allowable level
Arsenic	5 ppm[2] maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash point	100 deg. F minimum
Total halogens	1,000 ppm maximum

[1] The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).
[2] parts per million

This table is based on Table 1 from 40 CFR 279.11, incorporating the 1,000 ppm limit for total halogens as explained above.

5.5 Fee Review

Interstate Concrete and Asphalt Company paid the $1,000 application fee as required in IDAPA 58.01.01.224 on January 15, 2004.

A permit to construct processing fee of $7,500.00 is required in accordance with IDAPA 58.01.01.225, because the increase in emissions from the modification was more than 100 T/yr. The $7,500.00 processing fee was received May 28, 2004.

The Interstate Concrete and Asphalt Company facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.387.

6. PERMIT CONDITIONS

This section lists the permit conditions required to demonstrate compliance with emissions and ambient air quality standards.

Permit Condition 2.3 limits PM emissions from the drum dryer stack to the NSPS emissions limit of 0.4 gr/dscf and the opacity to no more than 20% opacity as required by 40 CFR Part 60.92(a)(1).

Permit Condition 2.4 limits the opacity from all other affected facilities to no more than 20% opacity as required by 40 CFR Part 60.92(a)(1).

Permit Condition 2.5 limits CO emissions to 96.2 T/yr. CO is the pollutant emitted in the greatest quantity and its limit establishes the facility's potential to emit.

Permit Condition 2.8 limits the type of fuel that can be burned in the drum dryer burner. The allowable fuels are natural gas, propane, diesel fuel (No. 2 fuel oil), and used oil.

Permit Condition 2.9 limits the concentration of arsenic, cadmium, chromium, lead and total halogens in any used oil the facility may burn. The used oil's flash point is also limited. Total halogens are limited to 1,000 ppm to assure the used oil cannot be classified as hazardous waste.

Permit Condition 2.10 limits the sulfur content in the diesel fuel and used oil to a maximum 0.5% by weight.

Permit Condition 2.11 limits the hot-mix asphalt production of the facility to 1,480,000 T/yr. This limit and Permit Condition 2.15 establish the facility's potential to emit.

Permit Condition 2.15 limits the HMA plant's hours of operation to 3,700 hr/yr.

Permit Condition 2.16 requires the permittee to monitor the pressure drop across the drum dryer baghouse stack once per day when operating to make sure the baghouse is operating according to the manufacturers recommended pressure drop operating range; requires the permit monitor and record the hot-mix asphalt production to demonstrate compliance with Permit Condition 2.11; and requires the permit monitor and record the hours of operation to demonstrate compliance with Permit Condition 2.15.

Permit Condition 2.19 requires that the permittee conduct a performance test to measure PM emissions to demonstrate compliance with Permit Condition 2.3. Testing is required at least once every five years.

Permit Condition 2.20 restricts operations in any PM_{10} nonattainment area or proposed PM_{10} nonattainment area. If the permittee wants to operate in one of these areas, a permit allowing such operations is required.

Permit Condition 2.21 requires an analysis of all used to demonstrate that its constituents do not exceed the limits provided by Permit Condition 2.9.

Permit Condition 2.24 requires that the permittee monitor and record the fuel sulfur content (diesel fuel and used oil) on an as-received-basis to demonstrate compliance with Permit Condition 2.10.

7. PUBLIC COMMENT

A public comment period was provided in accordance with IDAPA 58.01.01.209.01.c from June 1 through June 30, 2004. Comments on the proposed permit were provided by a member of the public. Those comments and DEQ's response is provided as Appendix E.

8. RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that Interstate Concrete and Asphalt Company in Rathdrum be issued a final PTC No. P-040101 for the new HMA plant. A public comment period on the air quality aspects of the proposed PTC No. P-040101was provided in accordance with IDAPA 58.01.01.209.01.c.

HE/sd Permit No. P-040101

APPENDIX A

Emissions Inventory

P-040101

Technical Analysis

February 19, 2004

Interstate Concrete & Asphalt, Coeur d'Alene

P-040101

Prepared by:

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Division of Technical Services

Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
CO	carbon monoxide
DEQ	Department of Environmental Quality
lb/hr	pound per hour
NO_X	nitrogen oxides
PM	Particulate Matter
PM_{10}	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
SO_2	sulfur dioxide
T/yr	Tons per year

PURPOSE

The purpose for this memorandum is to review the emissions estimates provided by Interstate Asphalt & Concrete (Interstate) in a permit to construct application.

PROJECT DESCRIPTION

Interstate is proposing to increase the capacity of a drum mix asphalt plant. Interstate is also proposing to use waste oil and fuel oil in addition to propane and natural gas.

TECHNICAL ANALYSIS

Process Description

Aggregate is heated and dried in a rotating drum. The heated and dried aggregate is then mixed with liquid asphalt cement. Particulate matter emissions from the drum dryer are controlled by a baghouse.

Equipment Listing

CMI PTD-400 Hot mix asphalt plant dryer

Emissions Estimates

The Department of Environmental Quality (DEQ) conducted confirmatory emissions estimates to compare to the emissions estimates supplied by the applicant for a 400-ton per hour drum mix asphalt plant. The applicant proposed an annual production limitation of 1,480,000 tons per year. Both the applicant's and DEQ's emissions estimates are based on EPA AP-42[1], Section 11.1 emissions factors for hot mix asphalt plants. Appendix A contains DEQ's emissions estimates for the drum mix asphalt plant while firing natural gas, number 2 fuel oil and waste oil. Appendix B contains a summary of DEQ's emissions estimates and the applicant's emissions estimates for worst case emissions.

Table 1 gives a summary of the criteria air pollutant emissions estimates for the drum dryer.

Table 1. Potential Emissions from Drum Dryer

Pollutant	PM[a]	PM_{10}[b]	NO_x[c]	SO_2[d]	CO[e]	VOC[f]	Pb[g]
Potential Emissions Rate (lb/hr)	13.2	9.2	22	23.2	52	12.8	6.0E-3
Potential Emissions Rate (T/yr)	24.42	17.02	40.7	42.92	96.2	23.68	1.11E-2

a) Particulate matter
b) Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
c) Nitrogen oxides
d) Sulfur dioxide
e) Carbon monoxide
f) Volatile organic compound
g) Lead

[1] *Compilation of Air Pollutant Emissions Factors* (AP-42), Fifth Edition, Volume I: *Stationary Point and Area Sources*, U. S. Environmental Protection Agency, Washington, DC.

Stack Parameter Basis

The applicant provided stack and exhaust gas parameters in the application. An induced draft fan moves the air through the drum mix dryer to the baghouse. Table 2 gives the stack parameters provided in the application.

Table 2. Stack Parameters for Asphalt Plant Dryer

Emissions Unit	Stack Height (ft)	Stack Diameter (ft)	Gas Flowrate (acfm)	Stack Temp. (°F)
CMI PTD-400 Hot Mix Asphalt Plant Dryer	30	4.66	63,292	275

Operating Parameters

Operational Factors

Air pollution emissions estimates from the drum dryer are dependent on the rate at which aggregate is processed through the dryer, the type of fuel that is used by the dryer and the type of air pollution control device used. The emissions estimates in this memorandum are based on: an aggregate throughput of 400 tons per hour and 1,480,000 tons per year; the fuel used is either waste oil, natural gas or number 2 fuel oil; and the air pollution control device is a baghouse. Emissions estimates for the drum mix dryer while using natural gas as a fuel can be assumed to be equivalent to emissions that would occur when the dryer is utilizing propane as a fuel.

Metal emissions from the drum mix asphalt plants are the same whether they are processing recycled asphalt pavement (RAP) or normal aggregate (AP-42, Table 11.1-12, footnote a.). For all other pollutants no emissions factors were available dryers while using RAP. AP-42 Table 11.1-10, footnote b, says that tests on processing RAP in drum mix dryers yielded limited data, so the effect of recycled asphalt processing on emissions could not be determined.

DP/sl P-040101

Appendix A

Drum Mix Dryer Emissions Estimates

Interstate Concrete and Asphalt

Used Oil Fired Drum Mix Asphalt Plant Dryer With Fabric Filter

Hourly Throughput 400 T/hr
Annual Throughput 1480000 T/yr

Pollutant	Emission Factor (lb/ton) [a]	Hourly Emissions (lb/hr) [b]	Annual Emissions (T/yr) [c]
PM (total)	0.033	13.2	24.42
PM-10 (total)	0.023	9.2	17.02
CO	0.13	52	96.2
NOx	0.055	22	40.7
SO_2	0.058	23.2	42.92
VOC	0.032	12.8	23.68
HCl[e]	0.00021	0.084	0.1554
Dioxins[e]			
2,3,7,8-TCDD	2.10E-13	8.4E-11	1.554E-10
Total TCDD	9.30E-13	3.72E-10	6.882E-10
1,2,3,7,8-PeCDD	3.10E-13	1.24E-10	2.294E-10
Total PeCDD	2.20E-11	8.8E-09	1.628E-08
1,2,3,4,7,8-HxCDD	4.20E-13	1.68E-10	3.108E-10
1,2,3,6,7,8-HxCDD	1.30E-12	5.2E-10	9.62E-10
1,2,3,7,8,9-HxCDD	9.80E-13	3.92E-10	7.252E-10
Total HxCDD	1.20E-11	4.8E-09	8.88E-09
1,2,3,4,6,7,8-Hp-CDD	4.80E-12	1.92E-09	3.552E-09
Total HpCDD	1.90E-11	7.6E-09	1.406E-08
Octa CDD	2.50E-11	1E-08	1.85E-08
Total PCDD	7.90E-11	3.16E-08	5.846E-08
Furans[e]			
2,3,7,8-TCDF	9.70E-13	3.88E-10	7.178E-10
Total TCDF	3.70E-12	1.48E-09	2.738E-09
1,2,3,7,8-PeCDF	4.30E-12	1.72E-09	3.182E-09
2,3,4,7,8-PeCDF	8.40E-13	3.36E-10	6.216E-10
Total PeCDF	8.40E-11	3.36E-08	6.216E-08
1,2,3,4,7,8-HxCDF	4.00E-12	1.6E-09	2.96E-09
1,2,3,6,7,8-HxCDF	1.20E-12	4.8E-10	8.88E-10
2,3,4,6,7,8-HxCDF	1.90E-12	7.6E-10	1.406E-09
1,2,3,7,8,9-HxCDF	8.40E-12	3.36E-09	6.216E-09
Total HxCDF	1.30E-11	5.2E-09	9.62E-09
1,2,3,4,6,7,8-HpCDF	6.50E-12	2.6E-09	4.81E-09
1,2,3,4,7,8,9-HpCDF	2.70E-12	1.08E-09	1.998E-09
Total HpCDF	1.00E-11	4E-09	7.4E-09
Octa CDF	4.80E-12	1.92E-09	3.552E-09
Total PCDF	4.00E-11	1.6E-08	2.96E-08
Total PCDD/PCDF	1.20E-10	4.8E-08	8.88E-08
Acetaldehyde[e]	0.0013	0.52	0.962
Acrolein	2.60E-05	0.0104	0.01924
Benzene[e]	0.00039	0.156	0.2886
Ethylbenzene[e]	0.00024	0.096	0.1776
Formaldehyde[e]	0.0031	1.24	2.294
Hexane[e]	0.00092	0.368	0.6808
Isooctane	4.00E-05	0.016	0.0296
Methyl Ethyl Ketone[e]	2.00E-05	0.008	0.0148
Propionaldehyde[e]	0.00013	0.052	0.0962
Quinone[e]	0.00016	0.064	0.1184
Methyl chloroform[e]	4.80E-05	0.0192	0.03552
Toluene[e]	0.0029	1.16	2.146
Xylene[e]	0.0002	0.08	0.148

Pollutant	Emission Factor (lb/ton) [a]	Hourly Emissions (lb/hr) [b]	Annual Emissions (T/yr) [c]
2-Methylnaphthalene	0.00017	6.80E-02	1.26E-01
Acenaphthene	1.40E-06	5.60E-04	1.04E-03
Acenaphthylene	2.20E-05	8.80E-03	1.63E-02
Anthracene	3.10E-06	1.24E-03	2.29E-03
Benzo(a)anthracene	2.10E-07	8.40E-05	1.55E-04
Benzo(a)pyrene[e]	9.80E-09	3.92E-06	7.25E-06
Benzo(b)fluoranthene	1.00E-07	4.00E-05	7.40E-05
Benzo(e)pyrene	1.10E-07	4.40E-05	8.14E-05
Benzo(g,h,i)perylene	4.00E-08	1.60E-05	2.96E-05
Benzo(k)fluoranthene	4.10E-08	1.64E-05	3.03E-05
Chrysene	1.80E-07	7.20E-05	1.33E-04
Fluoranthene	6.10E-07	2.44E-04	4.51E-04
Fluorene	1.10E-05	4.40E-03	8.14E-03
Indeno(1,2,3-cd)pyrene	7.00E-09	2.80E-06	5.18E-06
Naphthalene[e]	0.00065	2.60E-01	4.81E-01
Perylene	8.80E-09	3.52E-06	6.51E-06
Phenanthrene	2.30E-05	9.20E-03	1.70E-02
Pyrene	3.00E-06	1.20E-03	2.22E-03
Acetone[e]	0.00083	3.32E-01	6.14E-01
Benzaldehyde	0.00011	4.40E-02	8.14E-02
Butane	0.00067	2.68E-01	4.96E-01
Butyraldehyde	0.00016	6.40E-02	1.18E-01
Crotonaldehyde[e]	8.60E-05	3.44E-02	6.36E-02
Ethylene	0.007	2.80E+00	5.18E+00
Heptane	0.0094	3.76E+00	6.96E+00
Hexanal	0.00011	4.40E-02	8.14E-02
Isovaleraldehyde	3.20E-05	1.28E-02	2.37E-02
2-Methyl-1-pentene	0.004	1.60E+00	2.96E+00
2-Methyl-2-butene	0.00058	2.32E-01	4.29E-01
3-Methylpentane	0.00019	7.60E-02	1.41E-01
1-Pentene	0.0022	8.80E-01	1.63E+00
n-Pentane	0.00021	8.40E-02	1.55E-01
Valeraldehyde	6.70E-05	2.68E-02	4.96E-02
Antimony[e]	1.80E-07	7.20E-05	1.33E-04
Arsenic[e]	5.60E-07	2.24E-04	4.14E-04
Barium[e]	5.80E-06	2.32E-03	4.29E-03
Beryllium[e]	0	0.00E+00	0.00E+00
Cadmium[e]	4.10E-07	1.64E-04	3.03E-04
Chromium[e]	5.50E-06	2.20E-03	4.07E-03
Cobalt[e]	2.60E-06	1.04E-05	1.92E-05
Copper[e]	3.10E-06	1.24E-03	2.29E-03
Hexavalent Chromium[e]	4.50E-07	1.80E-04	3.33E-04
Lead	1.50E-05	6.00E-03	1.11E-02
Manganese[e]	7.70E-06	3.08E-03	5.70E-03
Mercury[e]	2.60E-06	1.04E-03	1.92E-03
Nickel[e]	6.30E-05	2.52E-02	4.66E-02
Phosphorus[e]	2.80E-05	1.12E-02	2.07E-02
Silver[e]	4.80E-07	1.92E-04	3.55E-04
Selenium[e]	3.50E-07	1.40E-04	2.59E-04
Thallium[e]	4.10E-09	1.64E-06	3.03E-06
Zinc[e]	6.10E-05	2.44E-02	4.51E-02

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) IDAPA Toxic Air Pollutant

[redacted]terstate Concrete and Asphalt

Natural Gas Fired Drum Mix Asphalt Plant Dryer With Fabric Filter

Hourly Throughput 400 T/hr
Annual Throughput 1480000 T/yr

PM (total)	0.033	13.2	24.42
PM-10 (total)	0.023	9.2	17.02
CO	0.13	52	96.2
NOx	0.026	10.4	19.24
SO_2	0.0034	1.36	2.516
VOC	0.032	12.8	23.68
Hcle	No Data		
Benzene[e]	0.00039	0.156	0.2886
Ethylbenzene[e]	0.00024	0.096	0.1776
Formaldehyde[e]	0.0031	1.24	2.294
Hexane[e]	0.00092	0.368	0.6808
Isooctane	4.00E-05	1.60E-02	2.96E-02
Methyl chloroform[e]	4.80E-05	1.92E-02	3.55E-02
Toluene[e]	0.00015	6.00E-02	1.11E-01
Xylene[e]	0.0002	8.00E-02	1.48E-01
2-Methylnaphthalene	7.40E-05	2.96E-02	5.48E-02
Acenaphthene	1.40E-06	5.60E-04	1.04E-03
Acenaphthylene	8.60E-06	3.44E-03	6.36E-03
Anthracene	2.20E-07	8.80E-05	1.63E-04
Benzo(a)anthracene	2.10E-07	8.40E-05	1.55E-04
Benzo(a)pyrene[e]	9.80E-09	3.92E-06	7.25E-06
Benzo(b)fluoranthene	1.00E-07	4.00E-05	7.40E-05
Benzo(e)pyrene	1.10E-07	4.40E-05	8.14E-05
Benzo(g,h,i)perylene	4.00E-08	1.60E-05	2.96E-05
Benzo(k)fluoranthene	4.10E-08	1.64E-05	3.03E-05
Chrysene	1.80E-07	7.20E-05	1.33E-04
Fluoranthene	6.10E-07	2.44E-04	4.51E-04
Fluorene	3.80E-06	1.52E-03	2.81E-03
Indeno(1,2,3-cd)pyrene	7.00E-09	2.80E-06	5.18E-06
Naphthalene[e]	9.00E-05	3.60E-02	6.66E-02

Perylene	8.80E-09	3.52E-06	6.512E-06
Phenanthrene	7.60E-06	3.04E-03	5.62E-03
Pyrene	5.40E-07	2.16E-04	4.00E-04
Butane	0.00067	2.68E-01	4.96E-01
Ethylene	0.007	2.80E+00	5.18E+00
Heptane	0.0094	3.76E+00	6.96E+00
2-Methyl-1-pentene	0.004	1.60E+00	2.96E+00
2-Methyl-2-butene	0.00058	2.32E-01	4.29E-01
3-Methylpentane	0.00019	7.60E-02	1.41E-01
1-Pentene	0.0022	8.80E-01	1.63E+00
n-Pentane	0.00021	8.40E-02	1.55E-01
Antimony[e]	1.80E-07	7.20E-05	1.33E-04
Arsenic[e]	5.60E-07	2.24E-04	4.14E-04
Barium[e]	5.80E-06	2.32E-03	4.29E-03
Beryllium[e]	0	0.00E+00	0.00E+00
Cadmium[e]	4.10E-07	1.64E-04	3.03E-04
Chromium[e]	5.50E-06	2.20E-03	4.07E-03
Cobalt[e]	2.60E-08	1.04E-05	1.92E-05
Copper[e]	3.10E-06	1.24E-03	2.29E-03
Hexavalent Chromium[e]	4.50E-07	1.80E-04	3.33E-04
Lead	6.20E-07	2.48E-04	4.59E-04
Manganese[e]	7.70E-06	3.08E-03	5.70E-03
Mercury[e]	2.40E-07	9.60E-05	1.78E-04
Nickel[e]	6.30E-05	2.52E-02	4.66E-02
Phosphorus[e]	2.80E-05	1.12E-02	2.07E-02
Silver[e]	4.80E-07	1.92E-04	3.55E-04
Selenium[e]	3.50E-07	1.40E-04	2.59E-04
Thallium[e]	4.10E-09	1.64E-06	3.03E-06
Zinc[e]	6.10E-05	2.44E-02	4.51E-02

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) IDAPA Toxic Air Pollutant

Interstate Concrete and Asphalt

#2 Fuel Oil Fired Drum Mix Asphalt Plant Dryer With Fabric Filter

Hourly Throughput 400 T/hr
Annual Throughput 1480000 T/yr

PM (total)	0.033	13.2	24.42
PM-10 (total)	0.023	9.2	17.02
CO	0.13	52	96.2
NOx	0.055	22	40.7
SO_2	0.011	4.4	8.14
VOC	0.032	12.8	23.68
HCL[e]	No Data		
Benzene[e]	0.00039	0.156	0.2886
Ethylbenzene[e]	0.00024	0.096	0.1776
Formaldehyde[e]	0.0031	1.24	2.294
Hexane	0.00092	0.368	0.6808
Isooctane	4.00E-05	1.60E-02	2.96E-02
Methyl chloroform[e]	4.80E-05	1.92E-02	3.55E-02
Toluene[e]	0.0029	1.16E+00	2.15E+00
Xylene[e]	0.0002	8.00E-02	1.48E-01
2-Methylnaphthalene	0.00017	6.80E-02	1.26E-01
Acenaphthene	1.40E-06	5.60E-04	1.04E-03
Acenaphthylene	2.20E-05	8.80E-03	1.63E-02
Anthracene	3.10E-06	1.24E-03	2.29E-03
Benzo(a)anthracene	2.10E-07	8.40E-05	1.55E-04
Benzo(a)pyrene[e]	9.80E-09	3.92E-06	7.25E-06
Benzo(b)fluoranthene	1.00E-07	4.00E-05	7.40E-05
Benzo(e)pyrene	1.10E-07	4.40E-05	8.14E-05
Benzo(g,h,i)perylene	4.00E-08	1.60E-05	2.96E-05
Benzo(k)fluoranthene	4.10E-08	1.64E-05	3.03E-05
Chrysene	1.80E-07	7.20E-05	1.33E-04
Fluoranthene	6.10E-07	2.44E-04	4.51E-04
Fluorene	1.10E-05	4.40E-03	8.14E-03
Indeno(1,2,3-cd)pyrene	7.00E-09	2.80E-06	5.18E-06
Naphthalene[e]	0.00065	2.60E-01	4.81E-01
Perylene	8.80E-09	3.52E-06	6.51E-06
Phenanthrene	2.30E-05	9.20E-03	1.70E-02
Pyrene	3.00E-06	1.20E-03	2.22E-03
Butane	0.00067	2.68E-01	4.96E-01
Ethylene	0.007	2.80E+00	5.18E+00
Heptane	0.0094	3.76E+00	6.96E+00
2-Methyl-1-pentene	0.004	1.60E+00	2.96E+00
2-Methyl-2-butene	0.00058	2.32E-01	4.29E-01
3-Methylpentane	0.00019	7.60E-02	1.41E-01
1-Pentene	0.0022	8.80E-01	1.63E+00
n-Pentane	0.00021	8.40E-02	1.55E-01

Dioxins[e]			
2,3,7,8-TCDD	2.10E-13	8.4E-11	1.554E-10
Total TCDD	8.30E-13	3.72E-10	6.882E-10
1,2,3,7,8-PeCDD	3.10E-13	1.24E-10	2.294E-10
Total PeCDD	2.20E-11	8.8E-09	1.628E-08
1,2,3,4,7,8-HxCDD	4.20E-13	1.68E-10	3.108E-10
1,2,3,6,7,8-HxCDD	1.30E-12	5.2E-10	9.62E-10
1,2,3,7,8,9-HxCDD	9.80E-13	3.92E-10	7.252E-10
Total HxCDD	1.20E-11	4.8E-09	8.88E-09
1,2,3,4,6,7,8-Hp-CDD	4.80E-12	1.92E-09	3.552E-09
Total HpCDD	1.90E-11	7.6E-09	1.406E-08
Octa CDD	2.50E-11	1E-08	1.85E-08
Total PCDD	7.90E-11	3.16E-08	5.846E-08
Furans[e]			
2,3,7,8-TCDF	9.70E-13	3.88E-10	7.178E-10
Total TCDF	3.70E-12	1.48E-09	2.738E-09
1,2,3,7,8-PeCDF	4.30E-12	1.72E-09	3.182E-09
2,3,4,7,8-PeCDF	8.40E-13	3.36E-10	6.216E-10
Total PeCDF	8.40E-11	3.36E-08	6.216E-08
1,2,3,4,7,8-HxCDF	4.00E-12	1.6E-09	2.96E-09
1,2,3,6,7,8-HxCDF	1.20E-12	4.8E-10	8.88E-10
2,3,4,6,7,8-HxCDF	1.90E-12	7.6E-10	1.406E-09
1,2,3,7,8,9-HxCDF	8.40E-12	3.36E-09	6.216E-09
Total HxCDF	1.30E-11	5.2E-09	9.62E-09
1,2,3,4,6,7,8-HpCDF	6.50E-12	2.6E-09	4.81E-09
1,2,3,4,7,8,9-HpCDF	2.70E-12	1.08E-09	1.998E-09
Total HpCDF	1.00E-11	4E-09	7.4E-09
Octa CDF	4.80E-12	1.92E-09	3.552E-09
Total PCDF	4.00E-11	1.6E-08	2.96E-08
Total PCDD/PCDF	1.20E-10	4.8E-08	8.88E-08
Antimony[e]	1.80E-07	7.20E-05	1.33E-04
Arsenic[e]	5.60E-07	2.24E-04	4.14E-04
Barium[e]	5.80E-06	2.32E-03	4.29E-03
Beryllium[e]	0	0.00	0.00
Cadmium[e]	4.10E-07	1.64E-04	3.03E-04
Chromium[e]	5.50E-06	2.20E-03	4.07E-03
Cobalt[e]	2.60E-06	1.04E-05	1.92E-05
Copper[e]	3.10E-06	1.24E-03	2.29E-03
Hexavalent Chromium[e]	4.50E-07	1.80E-04	3.33E-04
Lead	1.50E-05	6.00E-03	1.11E-02
Manganese[e]	7.70E-06	3.08E-03	5.70E-03
Mercury[e]	2.60E-06	1.04E-03	1.92E-03
Nickel[e]	6.90E-05	2.82E-02	4.88E-02
Phosphorus[e]	2.80E-06	1.12E-02	2.07E-02
Silver[e]	4.80E-07	1.92E-04	3.55E-04
Selenium[e]	3.50E-07	1.40E-04	2.59E-04
Thallium[e]	4.10E-09	1.64E-06	3.03E-06
Zinc[e]	6.10E-05	2.44E-02	4.51E-02

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) IDAPA Toxic Air Pollutant

Appendix B

Summary of Emissions Estimates

Interstate Concrete and Asphalt

Maximum Emissions from Drum Dryer using Natural Gas, #2 Fuel Oil or Waste Oil with Fabric Filter

PM (total)	13.2	Same
PM-10 (total)	9.2	Same
CO	52	Same
NOx	22	Same
SO_2	23.2	Same
VOC	12.8	Same
HCl[d]	0.084	Same
Dioxins[d]		c
2,3,7,8-TCDD	8.4E-11	c
Total TCDD	3.72E-10	c
1,2,3,7,8-PeCDD	1.24E-10	c
Total PeCDD	8.8E-09	c
1,2,3,4,7,8-HxCDD	1.68E-10	c
1,2,3,6,7,8-HxCDD	5.2E-10	c
1,2,3,7,8,9-HxCDD	3.92E-10	c
Total HxCDD	4.8E-09	c
1,2,3,4,6,7,8-Hp-CDD	1.92E-09	c
Total HpCDD	7.6E-09	c
Octa CDD	0.00000001	c
Total PCDD	3.16E-08	c
Furans[d]		c
2,3,7,8-TCDF	3.88E-10	c
Total TCDF	1.48E-09	c
1,2,3,7,8-PeCDF	1.72E-09	c
2,3,4,7,8-PeCDF	3.36E-10	c
Total PeCDF	3.36E-08	c
1,2,3,4,7,8-HxCDF	1.6E-09	c
1,2,3,6,7,8-HxCDF	4.8E-10	c
2,3,4,6,7,8-HxCDF	7.6E-10	c
1,2,3,7,8,9-HxCDF	3.36E-09	c
Total HxCDF	5.2E-09	c
1,2,3,4,6,7,8-HpCDF	2.6E-09	c
1,2,3,4,7,8,9-HpCDF	1.08E-09	c
Total HpCDF	4E-09	c
Octa CDF	1.92E-09	c
Total PCDF	1.6E-08	c
Total PCDD/PCDF	4.8E-08	c
Acetaldehyde[d]	0.52	Same
Acrolein	1.04E-02	Same
Benzene[d]	0.156	Same
Ethylbenzene[d]	0.096	Same
Formaldehyde[d]	1.24	Same
Hexane[d]	0.368	Same
Isooctane	1.60E-02	Same
Methyl Ethyl Ketone[d]	0.008	Same
Propionaldehyde[d]	0.052	Same
Quinone[d]	0.084	Same
Methyl chloroform[d]	1.92E-02	Same
Toluene[d]	1.16E+00	Same
Xylene[d]	8.00E-02	Same

2-Methylnaphthalene	6.80E-02	ND
Acenaphthene	5.60E-04	ND
Acenaphthylene	8.80E-03	ND
Anthracene	1.24E-03	ND
Benzo(a)anthracene	8.40E-05	ND
Benzo(a)pyrene	3.92E-06	2.00E-04
Benzo(b)fluoranthene	4.00E-05	ND
Benzo(e)pyrene[d]	4.40E-05	ND
Benzo(g,h,i)perylene	1.60E-05	ND
Benzo(k)fluoranthene	1.64E-05	ND
Chrysene	7.20E-05	ND
Fluoranthene	2.44E-04	ND
Fluorene	4.40E-03	ND
Indeno(1,2,3-cd)pyrene	2.80E-06	ND
Naphthalene[d]	2.60E-01	ND
Perylene	3.52E-06	ND
Phenanthrene	9.20E-03	ND
Pyrene	1.20E-03	ND
Acetone[d]	3.32E-01	Same
Benzaldehyde	4.40E-02	ND
Butane	2.68E-01	ND
Butyraldehyde	6.40E-02	ND
Crotonaldehyde[d]	3.44E-02	Same
Ethylene	2.80E+00	ND
Heptane	3.76E+00	Same
Hexanal	4.40E-02	ND
Isovaleraldehyde	1.28E-02	ND
2-Methyl-1-pentene	1.60E+00	ND
2-Methyl-2-butene	2.32E-01	ND
3-Methylpentane	7.60E-02	ND
1-Pentene	8.80E-01	ND
n-Pentane	8.40E-02	Same
Valeraldehyde	2.68E-02	Same
Antimony[d]	7.20E-05	1.00E-04
Arsenic[d]	2.24E-04	Same
Barium[d]	2.32E-03	ND
Beryllium[d]	0.00E+00	Same
Cadmium[d]	1.64E-04	2.00E-04
Chromium[d]	2.20E-03	Same
Cobalt[d]	1.04E-05	0
Copper[d]	1.24E-03	Same
Hexavalent Chromium[d]	1.80E-04	2.00E-04
Lead	6.00E-03	ND
Manganese[d]	3.08E-03	Same
Mercury[d]	1.04E-03	Same
Nickel[d]	2.52E-02	Same
Phosphorus[d]	1.12E-02	Same
Silver[d]	1.92E-04	Same
Selenium[d]	1.40E-04	1.00E-04
Thallium[d]	1.64E-06	0
Zinc[d]	2.44E-02	Same

a) Emission estimates made by DEQ using AP-42, Section 11.1 Emissions Factors
b) Emission estimates provided in the application received on January 26, 2004
c) Applicant determined that combined dioxin and furan emissions to compare to the toxic increment listed in IDAPA 58.01.01.586 is 1.23E-9 pounds per hour
d) IDAPA Toxic Air Pollutant
ND - Not Determined

c: (Bekka?) √Mary CRO.
Route to: — Marilyn — Pat R.

INTERSTATE
CONCRETE & ASPHALT

P-040101

January 23, 2004

Bill Rogers
Idaho Dept. of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Subject: Permit to Construct 55-00048 Modification

Dear Mr. Rogers,

I have enclosed two copies of the request to modify along with a CD-Rom of the Modeling Files for our existing plant site. This modification will allow us to replace the existing asphalt plant with a plant capable of burning Spec-Oil and the use of RAP.

We respectfully request that our Permit to Construct be modified to accommodate the above. Please contact me at 765-1144 if you need additional information to make the requested revision to our permit.

Sincerely,

Corky Witherwax
Aggregate Sales/
Environmental Manager

RECEIVED
JAN 26 2004
Department of Environmental Quality
State Air Program

18859

845 West Kathleen Avenue • Coeur d'Alene, Idaho 83814 • (208) 765-1144 • FAX (208) 765-3773

ETE AND ASPHALT COMPANY - W. 845 KATHLEEN - COEUR D'ALENE, ID 83815

7009652

VENDOR NAME	CHECK NUMBER
State Of Idaho	7009652

ENCE	DATE	DESCRIPTION	GROSS AMOUNT	DISCOUNT	RETAINAGE	PREVIOUS	BALANCE	NET AMOUNT
/2004	1/14/04	permit app fee Jensen HMA plan	1,000.00	0.00	0.00	0.00	0.00	1,000.00

RECEIVED
JAN 26 2004
Department of Environmental Quality
State Air Program

OR NO.		GROSS AMOUNT	DISCOUNT	RETAINAGE	PREVIOUS	BALANCE	NET AMOUNT
23358		1,000.00	0.00	0.00	0.00	0.00	1,000.00

• WARNING • ORIGINAL DOCUMENT CONTAINS SECURITY FEATURES • SEE BACK FOR DETAILS •

STATE CONCRETE AND ASPHALT COMPANY
subsidiary of CRH Development Corporation
5 KATHLEEN · COEUR D'ALENE, ID 83815

BANK OF AMERICA

7009652

DATE	CHECK NO.	AMOUNT
1/15/04	7009652	$1,000.00

*e thousand and xx/100 Dollars***

State Of Idaho
Dept. Of Environmental Quality
1410 North Hilton
Boise, ID 83706-1255

INTERSTATE CONCRETE AND ASPHALT COMPANY

AUTHORIZED SIGNATURE

Interstate Concrete and Asphalt Company
Asphalt Plant
Rathdrum, Idaho

Air Quality Permit Application Modification
Wyoming Plant
Permit No. 55-00048

Aspen File: ICA03117

Prepared for:

Interstate Concrete and Asphalt Company
845 West Kathleen Avenue
Coeur d'Alene, Idaho 83814

Prepared by:

Aspen Consulting & Engineering, Inc.
P.O. Box 4822
Helena, Montana 59604
(406) 457-5188

January 19, 2004

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APPENDICES

1.0 INTRODUCTION

Interstate Concrete and Asphalt Company (Interstate) owns and operates an asphalt plant in Rathdrum, Idaho known as the Wyoming Plant. Interstate is requesting an air quality Permit to Construct modification for this facility.

The Wyoming Plant currently operates a Gencor Industries/10332, drum mix, natural gas-fired hot mix asphalt plant dryer. The maximum production rate of the dryer is 300 tons per hour of asphalt. This facility is currently restricted to 5,500 hours of operation per year.

A concrete batch plant and a rock crushing plant are also located at the Wyoming Plant facility. The concrete batch plant is currently limited to 1,752,000 cubic yards per any consecutive 12-month period and the rock crushing plant is limited to 831,338 tons per year per any consecutive 12-month period.

1.1 PROPOSED PERMIT MODIFICATION

The existing permit is now listed as owned by Central Pre-Mix. Interstate wishes to change the permit owner name to Interstate Concrete and Asphalt Company. Both Central Pre-Mix and Interstate are owned by CPM Development Corporation. Therefore, the name change should be administrative.

Interstate proposes to replace the existing 300-ton per hour hot mix asphalt plant dryer with a 400-ton per hour CMI PTD-400 drum mix dryer with baghouse control. Interstate also proposes to remove the current primary crusher and replace it with a 500-ton per hour portable crusher, which will be located at the Wyoming Plant on an as needed basis and be controlled by water spray.

Interstate also proposes to include the use of recycled asphalt pavement (RAP) equipment. RAP equipment will allow Interstate to substitute RAP for cold aggregate.

Although the percentage of RAP used will vary, Interstate plans an equal swap of RAP for cold aggregate. Therefore, no particulate emissions increase will occur.

Included in the RAP process are an additional bin, a lump breaker (an enclosed low energy rotor arrangement that breaks up the weak lumps that tend to form in a crushed RAP pile), and two conveyors.

Also, Interstate proposes to burn waste oil, fuel oil, and natural gas as fuel for the asphalt plant dryer. The proposed waste oil fuel is sold under the generic name "On-Spec" oil. On-Spec oil meets the used oil specifications outlined in Chapter 279 of the Code of Federal Regulations, Subpart B (279 CFR, Subpart B).

Interstate requests the permit be modified to limit the total tons of hot-mix asphalt produced to 1,480,000 tons of HMA during any calendar year to avoid the facility becoming a major source under the Title V operating permit program. This amount of HMA equates to of 3,700 hours per year at maximum production.

Interstate does not propose to change the existing throughput limitations for the concrete batch plant or the rock crushing plant.

Idaho Department of Environmental Quality (DEQ) Standard Permit to Construct application forms are provided in Appendix A. Facility maps are provided in Appendix B.

1.2 PROCESS DESCRIPTION

The asphalt plant has a front-end loader to transfer stockpiled aggregate to five cold feed bins. Aggregate is dispensed from the bins onto slow moving feeder conveyors, sorted by a scalping screen for proportioned size gradations, and finally introduced to a drum mix dryer. Interstate is seeking to allow this drum dryer to burn used oil, fuel oil, and natural gas.

Aggregate travels through the rotating drum counter-current to the heating media. The material is then heated and dried and mixed with liquid asphalt cement. The resulting hot mix asphalt is then conveyed to hot storage bins until it can be loaded into dump trucks for transport off site. Figure 1 provides a general process flow diagram.

The concrete batch plant receives raw materials at the site by truck and are then dumped onto storage piles or conveyed into storage silos. Sand, course aggregate, cement, and fly ash are stored site in silos. These raw materials are combined to form the final concrete product.

Upon demand for concrete, the raw materials are weighed and dumped into a cement truck in the appropriate proportions. Water is added and the slurry is mixed and prepared for off-site delivery of the final product.

The rock crushing plant's quarried stone is dumped into a hopper feeder that feeds the facility's primary crusher. Reject material from the primary crusher is conveyed to the stacker scalp pile. Crushed material is conveyed to the primary screen and then conveyed to one of two secondary crushers. Stone is again crushed and sent via conveyor to additional screens. The tertiary screens select and convey product-sized material to loadout bunkers and return over-sized material to be recrushed in tertiary crushers until product-sized material is produced.

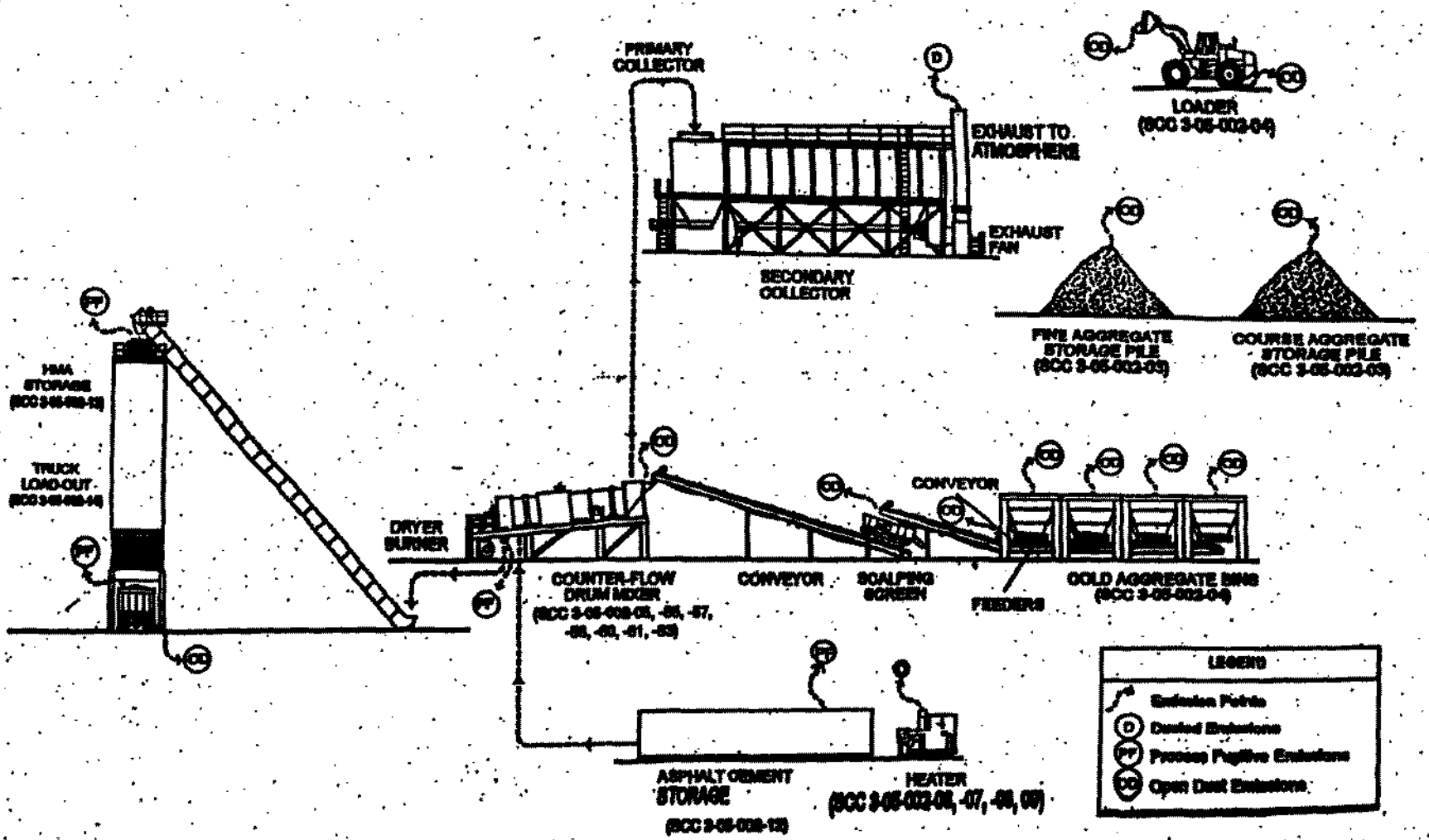


Figure 1. General process flow diagram

2.0 EMISSIONS INVENTORY

Emissions were calculated for both criteria and toxic pollutants. The following sections describe the methodologies, references, and results.

2.1 CRITERIA POLLUTANTS

Emissions estimates were calculated for the following criteria pollutants: Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Volatile Organic Compounds (VOC), Particulate Matter (PM), and Particulate Matter with an aerodynamic diameter of less than 10 microns (PM_{10}).

The EPA document AP-42, Section 11.1 emission factors (December 2000 edition) for Hot-Mix Asphalt Plants was used for estimating emissions of the criteria pollutants. Emission factors were chosen for drum plants equipped with a fabric filter utilizing the worst-case factor for natural gas, waste oil (estimate for used oil), or fuel oil. In some cases, the emission factors were the same regardless of fuel type. PM and PM_{10} emission factors include both the filterable and condensable fractions.

Emission totals, in tons per year, were based on a restriction of 1,480,000 tons per year of HMA. Hourly emission rates in pounds per hour (lb/hr) were determined using the proposed maximum production rate of 400 tons per hour.

Since the rock crushing plant and concrete batch plant emissions restrictions are proposed to remain the same, no change from the current existing permitted levels is expected.

An internet search for toxic emission factors did not reveal any information regarding the use of RAP materials in HMA plant dryers, and therefore the toxic emissions are assumed not to change due to the use of RAP.

Table 2-1 below presents a summary of the criteria pollutant emissions inventory. Interstate requests the current permitted allowable emission limits be modified to reflect the emission levels as shown in Table 2-1. A more detailed emissions inventory spreadsheet is included in Appendix C.

TABLE 2-1
CRITERIA POLLUTANT
EMISSIONS SUMMARY
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Pollutant	Emissions (tons/year)
NO_x	40.7
CO	96.2
SO_2	42.9
VOC	23.7
PM_{10}	77.2

Notes:

NOx	Nitrogen Oxides
CO	Carbon Monoxide
SO_2	Sulfur Dioxide
VOC	Volatile Organic Compounds
PM_{10}	Particulate Matter (aerodynamic diameter < 10 microns)

2.2 TOXIC AIR POLLUTANTS

Toxic air pollutants were estimated using AP-42, Section 11.1 emission factors (December 2000 edition) for Hot-Mix Asphalt Plants. Only emission factors for toxics listed in IDAPA 58.01.01.585 and 586 were selected from AP-42. The worst-case emission factors were chosen from natural gas, waste oil (estimate for used oil), or fuel oil factors. In some cases, the emission factors were the same regardless of fuel type.

Polycyclic organic matter (POM) and poly-aromatic hydrocarbons (PAHs), were determined as equivalent Benzo(a)pyrene. As noted by IDAPA 58.01.01.586, the emission factors for the following PAHs were first summed and then added to the

emission factor for Benzo(a)pyrene to determine if emission levels of PAHs were within acceptable limits:

- Benzo(a)anthracene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Dibenzo(a,h)anthracene
- Chrysene
- Indeno(1,2,3-cd)pyrene

Emission estimates for toxics are calculated to determine if the toxic pollutants resulting from the proposed facility modification will be within acceptable levels as provided for in IDAPA 58.01.01.585 and 586. This rule exempts specific toxics if they are below the screening emissions level (EL) or if they are below the acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) as prescribed by this rule.

Table 2-2 below presents an emissions summary for toxic air pollutants. Compounds listed in bold signify that the pound per hour emission rate is above the EL for that compound. These compounds are shown to be below the AACs or AACCs in Section 3.0 of this document.

TABLE 2-2
TOXIC AIR POLLUTANT
EMISSIONS SUMMARY
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Pollutant	Emissions Factor (lb/ton)	Emissions (lb/hr)	Idaho EL (lb/hr)
2,3,7,8 - TCDD (TEQ)	3.09E-12	1.23E-09	1.50E-10
Acetaldehyde	0.0013	0.5200	0.0030
Acetone	0.00083	0.3320	119.00
Acrolein	2.60E-05	0.0104	0.0170
Antimony	1.80E-07	0.0001	0.033
Arsenic	5.60E-07	0.0002	1.50E-06
Benzene	0.00039	0.1560	0.0008
Benzo(a)anthracene	2.10E-07	-	*
Benzo(a)pyrene**	5.48E-07	0.0002	2.00E-06
Benzo(b)fluoranthene	1.00E-07	-	*
Benzo(k)flouranthene	4.10E-08	-	*
Beryllium	0	0	2.80E-05
Cadmium	4.10E-07	0.0002	3.70E-06
Chromium	5.50E-06	0.0022	5.60E-07
Chrysene	1.80E-07	-	*
Cobalt	2.60E-08	0.0000	3.30E-03
Copper	3.10E-06	0.0012	1.30E-02
Crotonaldehyde	8.60E-05	0.0344	0.380
Ethylbenzene	0.00024	0.0960	29.00
Formaldehyde	0.0031	1.2400	0.00051
HCl	0.00021	0.0840	0.05
Heptane	0.0094	3.7600	109.0
Hexane	0.00092	0.3680	12.000
Hexavalent chromium	4.50E-07	0.0002	5.60E-07
Indeno(1,2,3-cd)pyrene	7.00E-09	-	*
Isooctane (2,2,4-trimethylpentane)	4.00E-05	0.0160	23.300
Manganese	7.70E-06	0.0031	6.70E-02
Mercury	2.60E-06	0.0010	3.00E-03
Methyl Chloroform	4.80E-05	0.0192	127.000
Methyl Ethyl Ketone	2.00E-05	0.0080	39.300
Nickel	6.30E-05	0.0252	2.70E-05
n-Pentane	0.00021	0.0840	118.000
Phosphorus	2.80E-05	0.0112	7.00E-03
Propionaldehyde	0.00013	0.0520	0.0287
Quinone	0.00016	0.0640	0.027

TABLE 2-2 (CONTINUED)
TOXIC AIR POLLUTANT
EMISSIONS SUMMARY
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Pollutant	Emissions Factor (lb/ton)	Emissions lb/hr	Idaho EL (lb/hr)
Selenium	3.50E-07	0.0001	1.30E-02
Silver	4.80E-07	0.0002	7.00E-03
Thallium	4.10E-09	0.0000	7.00E-03
Toluene	0.0029	1.1600	25.000
Valeraldehyde	6.70E-05	0.0268	11.700
Xylene	0.0002	0.0800	29.00
Zinc	6.10E-05	0.0244	6.67E-01

Notes:
Compounds in bold signify that the compound exceeds the allowable EL.
lb/hr Pounds per Hour
EL Emissions Level
** Total PAHs are considered as equivalents of benzo(a)pyrene. Emission Factors for the compounds with a "*" in the Idaho EL column are added to POMs as equivalent Benzo(a)pyrene.

3.0 SCREEN MODELING ANALYSIS

Modeling of the dryer stack emissions was completed using the EPA-approved SCREEN3 air dispersion model. SCREEN3 is a conservative model that uses worst-case meteorological data and calculates a maximum 1-hour average ambient concentration.

3.1 MODEL INPUT PARAMETERS

Model inputs for stack height, flow, and temperature were provided by Interstate. The dryer stack is a rectangular stack measuring 43 by 57 inches. Since the model requires a diameter input, the equivalent diameter was determined based on an equivalent stack cross-sectional area. Only flat terrain was considered. Model input parameters are listed below:

Stack Height: 30 feet

Stack Flow: 63,292 actual cubic feet per minute (acfm)

Stack Diameter:	4.655 feet
Stack Temperature:	275 degrees Fahrenheit
Emission Rate:	1 pound per hour (lb/hr)
Ambient Temperature:	68 degrees Fahrenheit

3.2 MODEL RESULTS

The SCREEN3 model run using the above-listed parameters estimated a maximum hourly ambient concentration of 1.988 micrograms per cubic meter ($\mu g/m^3$). The maximum hourly ambient concentration of each individual compound in the emissions inventory is determined by multiplying the corresponding emission rate in lb/hr by the modeled result of 1.988 $\mu g/m^3$. Since the modeled concentration was determined on a basis of 1 lb/hr, this calculation is appropriate. Screen model output is provided in Appendix D.

3.3 COMPARISON TO ACCEPTABLE AMBIENT CONCENTRATIONS

AACs and AACCs were reviewed for all compounds that exceeded their ELs. AACs are based on a 24-hour averaging period and AACCs are based on an annual averaging period. The SCREEN3 1-hour modeled concentrations were converted to 24-hour and annual averages using the methods described in IDAPA 58.01.01.210(i). The emissions inventory was developed based on pollutant grouping rather than carcinogen/non-carcinogen groupings. Therefore AACs and AACCs were combined into one table.

As shown below in Table 3-1, all pollutants reviewed are below their respective AAC or AACC except for formaldehyde. A refined modeling analysis is presented in Section 4.0, and results of the analysis showing compliance with the formaldehyde AACC are presented in Section 5.0.

TABLE 3-1
TOXIC AIR POLLUTANT
MODELED CONCENTRATIONS
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Pollutant	Modeled 1-hour Concentration ($\mu g/m^3$)	Modeled 24-hour Concentration ($\mu g/m^3$)	Modeled Annual Concentration ($\mu g/m^3$)	Idaho AAC/ AACC ($\mu g/m^3$)
2,3,7,8 - TCDD	2.91E-09		3.79E-19	2.20E-08
Acetaldehyde	1.2246		6.72E-02	0.45
Arsenic	0.00053	0.00021		0.23
Benzene	0.3674		6.05E-03	0.12
Benzo(a)pyrene**	0.00052	0.00021		0.0003
Cadmium	0.00039	0.00015		0.56
Chromium	0.0052	0.0021		0.0830
Formaldehyde	2.9202		3.82E-01	0.077
HCl	0.19782	0.079128		375
Hexavalent chromium	0.00042	0.00017		0.083
Nickel	0.0593	0.0237		4.2
Phosphorus	0.0264	0.0106		5
Propionaldehyde	0.1225	0.048984		21.5
Quinone	0.1507	0.060288		20

Notes:
$\mu g/m^3$ Micrograms per Cubic Meter

3.4 NATIONAL AMBIENT AIR QUALITY STANDARDS

A source cannot be modified or constructed in an attainment area if the change would cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). The 1-hour averages modeled for each criteria pollutant were converted to the appropriate 3-hour, 8-hour, 24-hour, and annual averages where appropriate. Averages were calculated by multiplying the 1-hour SCREEN3 concentration by the appropriate factors listed in EPA's, *"Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised."* Concentrations of criteria pollutants versus the appropriate NAAQS for each pollutant are presented in Table 3-2.

TABLE 3-2
MODELED CONCENTRATIONS AND NAAQS
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Pollutant	Modeled 1-hour Concentration ($\mu g/m^3$)	Modeled Adjusted Concentration ($\mu g/m^3$)	NAAQS Averaging Period	Idaho Background Concentration ($\mu g/m^3$)	Final Modeled Concentrations ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
NOx	52	4	Annual	17	21	100
CO	122	122	1-hour	3,600	3,722	40,000
		86	8-hour	2,300	2,386	10,000
SO2	55	49	3-hour	34	83	1,300*
		22	24-hour	26	48	365
		4	Annual	8	12	80
Ozone (as VOC)	30	21	8-hour	---	21	157
PM-10	Net Emissions Decrease. No modeling required for PM10 according to Idaho Modeling Guidance.					

Notes:

*	Secondary Standard
NOx	Nitrogen Oxides
CO	Carbon Monoxide
SO_2	Sulfur Dioxide
VOC	Volatile Organic Compounds
PM_{10}	Particulate Matter (aerodynamic diameter < 10 microns)
$\mu g/m^3$	Micrograms per Cubic Meter

A modeling analysis for PM_{10} was not performed because according to Idaho emissions modeling guidance, permit modifications that propose a net emissions increase of less than 1 ton per year do not require modeling. This proposed facility modification provides a net emissions decrease for PM_{10}.

The modeled concentrations for all criteria pollutants are less than the NAAQS.

4.0 REFINED MODELING ANALYSIS

This section describes the model selected, receptor grid development, meteorological data used, and terrain data used. The refined modeling analysis is being performed to show compliance with the formaldehyde AACC.

4.1 AIR DISPERSION MODEL SELECTION

The EPA approved Industrial Source Complex (ISC3) model was chosen for this refined modeling analysis. ISC3 is a steady-state Gaussian plume model that considers simple and complex terrain.

4.2 RECEPTOR GRID SPACING

Receptors were placed along the facility fence line at 50-meter intervals. A Cartesian receptor grid was developed outside the fence line boundary. Receptors were placed at 100-meter spacing for a distance of 1 kilometer (km) from the fence line. Receptors were placed at 250-meter spacing for distances of 1 km to 3 km from the fence line. Receptors were placed at 500-meter spacing for distances of 3 km to 10 km from the fence line.

All receptors were placed using Universal Transverse Mercator (UTM) coordinates.

4.3 RECEPTOR AND SOURCE ELEVATIONS

Receptor and emission source elevations were determined using United States Geological Survey (USGS) 7.5-minute series (1:24,000 scale) digitized maps. The Coeur d'Alene, Hayden, Post Falls, and Rathdrum, Idaho quadrangles, and the Liberty Lake and Newman Lake, Washington quadrangles in USGS's digital elevation model (DEM) file format were used.

4.4 METEOROLOGICAL DATA

Five years (1987, 1988, 1989, 1990, and 1991) of meteorological data were used in this modeling analysis. Surface and Upper air meteorological data were obtained from Spokane, Washington (Met Station #24157).

5.0 REFINED MODELING METHODOLOGY AND RESULTS

Refined modeling of the dryer stack emissions was performed to show compliance with the formaldehyde AACC. Formaldehyde was the only compound above the AAC or AACC for the proposed dryer stack.

5.1 REFINED MODELING METHODS

The hourly emission rate for formaldehyde, based on AP-42 emission factors (presented in Section 2.0) is 1.24 pounds per hour. However, since Interstate proposes to limit facility production to 3,700 hours per year, and the AACC for formaldehyde is based on an annual concentration, the pound per hour emission rate was adjusted to reflect less than full year of operation.

The adjusted emission rate was used in the refined modeling analysis for formaldehyde and is equal to the proposed hours of operation (3,700) divided by the number of hours in a year (8,760), times the hourly emission rate (1.24 lb/hr). The adjusted emission rate used in the modeling analysis for formaldehyde is therefore 0.524 pounds per hour.

All other dryer stack input parameters used in the SCREEN3 model (as presented in Section 3.1) were used in the refined modeling analysis. Building downwash was not considered since no buildings were within the area of the stack that would affect the stack plume. The rural option was chosen for this modeling analysis.

5.2 REFINED MODELING RESULTS

The refined modeling analysis of the proposed dryer stack showed that the annual concentration for formaldehyde was below the AACC. The receptor (507,371E, 5,291,654N) in the 1990 model year was the predicted annual high concentration for all years modeled and is located approximately 250 meters to the northeast of the facility. Table 5-1 presents the results. A printout of the refined modeling results is provided in Appendix E. Also, two copies of all modeling files are provided in electronic format on CD-ROM.

TABLE 5-1
FORMALDEHYDE
MODELED CONCENTRATIONS
INTERSTATE CONCRETE AND ASPHALT
WYOMING FACILITY

Model Year	Modeled Emissions (lb/hr)	High Receptor Location UTM Coordinates (meters)	Modeled Annual Concentration ($\mu g/m^3$)	Idaho AACC ($\mu g/m^3$)
1987	0.524	507,471E., 5,291,754N	0.0252	0.077
1988		507,471E , 5,291,754N	0.0316	
1989		507,371E , 5,291,654N	0.0261	
1990		507,371E , 5,291,654N	0.0337	
1991		507,371E , 5,291,754N	0.0238	

Notes:
$\mu g/m^3$ Micrograms per Cubic Meter

6.0 CONCLUSIONS

The proposed burning of used oil or fuel oil in the drum dryer at Interstate's Wyoming Plant can be allowed in accordance with Idaho's Air Quality Regulations. As proposed, Interstate may burn natural gas, used oil, or fuel oil at a production rate of 400 tons per hour of HMA for 3,700 hours per year, not exceeding 1,480,000 tons of HMA produced per calendar year. With these restrictions, Interstate will remain a minor source, meet the toxic air pollutant AACs/AACCs, and not cause or contribute to a violation of the NAAQS.

APPENDIX A

APPLICATION FORMS

STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

(IDAPA 58.01.01.200-.225)

SECTION 1: GENERAL INFORMATION

1. COMPANY AND DIVISION NAME: Interstate Concrete and Asphalt Company			
2. MAILING ADDRESS: 845 W. Kathleen St.		COUNTY: Kootenai	NUMBER OF FULL-TIME EMPLOYEES: 4
3. CITY: Coeur d' Alene	STATE: Idaho	ZIP CODE: 83815	TELEPHONE NUMBER: (208) 765-1144
4. PERSON TO CONTACT: Corky Witherwax		TITLE: Environmental Manager	
5. EXACT PLANT LOCATION *(IDENTIFY LOCALITY, AND INCLUDE UTM COORDINATES IF KNOWN)*: 8805 W. Wyoming Ave., 0.5 miles west of Highway 41, Rathdrum, ID. UTM Coordinates (507,100E, 5,291,110N)			
6. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS: Asphalt Plant, Rock Crushing Plant, and Batch Concrete Plant			

7. REASON FOR APPLICATION

- ☐ permit to construct a new facility
- ☒ permit to modify an existing source — permit number 55-00048
- ☐ permit to construct a new source at an existing facility
- ☒ change of owner or location — permit number 55-00048 — current owner Central Pre-Mix

8. LIST ALL FACILITIES WITHIN THE STATE THAT ARE UNDER YOUR CONTROL OR UNDER COMMON CONTROL AND HAVE EMISSIONS TO THE AIR. IF NONE, SO STATE.

NAME	LOCATION
Concrete Batch Plant #055-00049	Coeur d'Alene
Portable Wash Plant #777-00076	Coeur d'Alene
Asphalt Plant #055-00036	Hayden
Portable Crusher #777-00068	Hayden
Asphalt/Concrt. Plant #017-00048	Sandpoint
Asphalt Plant #777-0075	Blanchard

9. ESTIMATED CONSTRUCTION START DATE: Spring 2004	ESTIMATED COMPLETION DATE: Spring 2004
10. NAME AND TITLE OF OWNER OR RESPONSIBLE OFFICIAL: C. Patrick McFarlane, President	

11. In accordance with IDAPA 58.01.01.123 (*Rules for the Control of Air Pollution in Idaho*), I C. Patrick McFarlane, certify based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

SIGNATURE C. Patrick McFarlane DATE 1/23/04

The following information, at a minimum, must be included in the application package in order for the application to be determined complete:

- *A scaled plot plan clearly showing property boundaries and stack and building locations;*
- *All calculations and assumptions used to estimate emissions;*
- *Manufacturer s guarantees for stated control efficiencies of all control equipment;*
- *A description of potential fugitive emissions;*
- *A narrative description of the facility and the process from feed material in to final product out;*
- *A process flow diagram; and*
- *Any other information required by the DEQ to determine the application complete.*

STATE OF IDAHO
APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 2: FUEL-BURNING EQUIPMENT *(complete a separate page for each unit)*

1. APPLICANT'S REFERENCE NUMBER: 55-00048 Plant

2. EQUIPMENT MANUFACTURER AND MODEL NUMBER	3. RATED HEAT INPUT CAPACITY	4. BURNER UNIT TYPE (use code)	5. HEAT USAGE % process	% space heating
CMI PTD-400 Asphalt Plant Dryer	120 MMBtu/hr	10	100	

6. FUEL DATA

	Primary	Secondary 02 (#2)
fuel type (use code)	01	
percent sulfur		
percent ash		
percent nitrogen		
percent carbon		
percent hydrogen		
percent moisture		
heat content		

(percent by weight or volume)

7. FUEL CONSUMPTION

	Primary	Secondary
Maximum amount burned/hour	120 mcf	
Normal amount burned/year		

Fly ash reinjection? ___ yes ___ no ___ n.a.

8. OPERATING SCHEDULE

Hours per day	12
Days per week	7
Weeks per year	26

9. POLLUTION CONTROL EQUIPMENT

	Primary	Secondary
type	Baghouse	None
manufacturer	CMI	
model number	RA3-18P	
% efficiency	0.04 gr/dscf	

MANUFACTURER GUARANTEED ___ yes X no
(include guarantee)

for wet scrubbers:
water flow ___ gpm
pressure drop ___ inches of water

for baghouse:
air/cloth ratio unknown
pressure drop ___ inches of water

10. STACK OR EXHAUST DATA

Stack ID: Dryer
Height: 30 ft
Exit diameter: 43" X 57" ft
Exit gas volume: 63,292 acfm
Exit gas temperature: 275 F

(include a seperate page for each stack if multiple stacks or vents are used)
are used)

11. CRITERIA POLLUTANT ESTIMATED EMISSIONS

Particulates	9.2	lb/hr	17.02	tons/yr	Nitrogen oxides	22.0	lb/hr	40.7	tons/yr
Sulfur dioxide	23.2	lb/hr	42.92	tons/yr	Volatile organic compounds	12.8	lb/hr	23.7	tons/yr
Carbon monoxide	52.0	lb/hr	96.2	tons/yr					

(include calculations and assumptions)

FUEL CODES
1. Natural gas
2. Oil *(specify ASTM grade number)*
3. Wood *(specify chips, bark, shavings sander dust*
4. Coal *(specify bituminous, antracite, lignite)*
5. Other *(specify)*

BURNER CODES
1. Spreader stoker
2. Chain or traveling grate
3. Hand fired
4. Cyclone furnace
5. Wet bottom *(pulverized coal)*
6. Dry bottom *(pulverized coal)*
7. Underfeed stoker
8. Tangentially fired
9. Horizontally fired
10. Other *(specify)*

[redacted] OF IDAHO
APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT *(complete a separate page for each distinct process or manufacturing operation)*

1. APPLICANT'S REFERENCE NUMBER	2. PROCESS OR OPERATION NAME
Not applicable to this modif.	

3. MAXIMUM RATED INPUT CAPACITY *(tons/hour)**	4. NORMAL MAXIMUM FEED INPUT		5. NORMAL MAXIMUM PRODUCT OUTPUT	
	tons/hour	tons/year	tons/hour	tons/year

6. PROCESS EQUIPMENT

Type _____
Manufacturer _____
Model Number _____
Feed Material _____

7. OPERATING SCHEDULE

Hours per day _____
Days per week _____
Weeks per year _____

8. STACK OR EXHAUST DATA

Stack ID _____
Height _____ ft
Exit diameter _____ ft
Exit gas volume _____ acfm
Exit gas temperature _____ F

(Include a separate page for each stack if multiple stacks or vents are used)

10. POLLUTION CONTROL EQUIPMENT

	Primary	Secondary
Type		
Manufacturer		
Model Number		
% Efficiency		

MANUFACTURER GUARANTEED _____ Yes _____ no
(Include guarantee)

For wet scrubbers:
water flow _____ gpm
pressure drop _____ inches of water

For baghouses:
air/cloth ratio _____
pressure drop _____ inches of water

11. CRITERIA POLLUTANT ESTIMATED EMISSIONS

particulates	lb/hr	tons/yr
sulfur dioxide	lb/hr	tons/yr
carbon monoxide	lb/hr	tons/yr
nitrogen oxides	lb/hr	tons/yr
volatile organic compounds	lb/hr	tons/yr

(Include calculations and assumptions)

9. TOXIC AIR POLLUTANT ESTIMATED EMISSIONS

(Include calculations and assumptions)

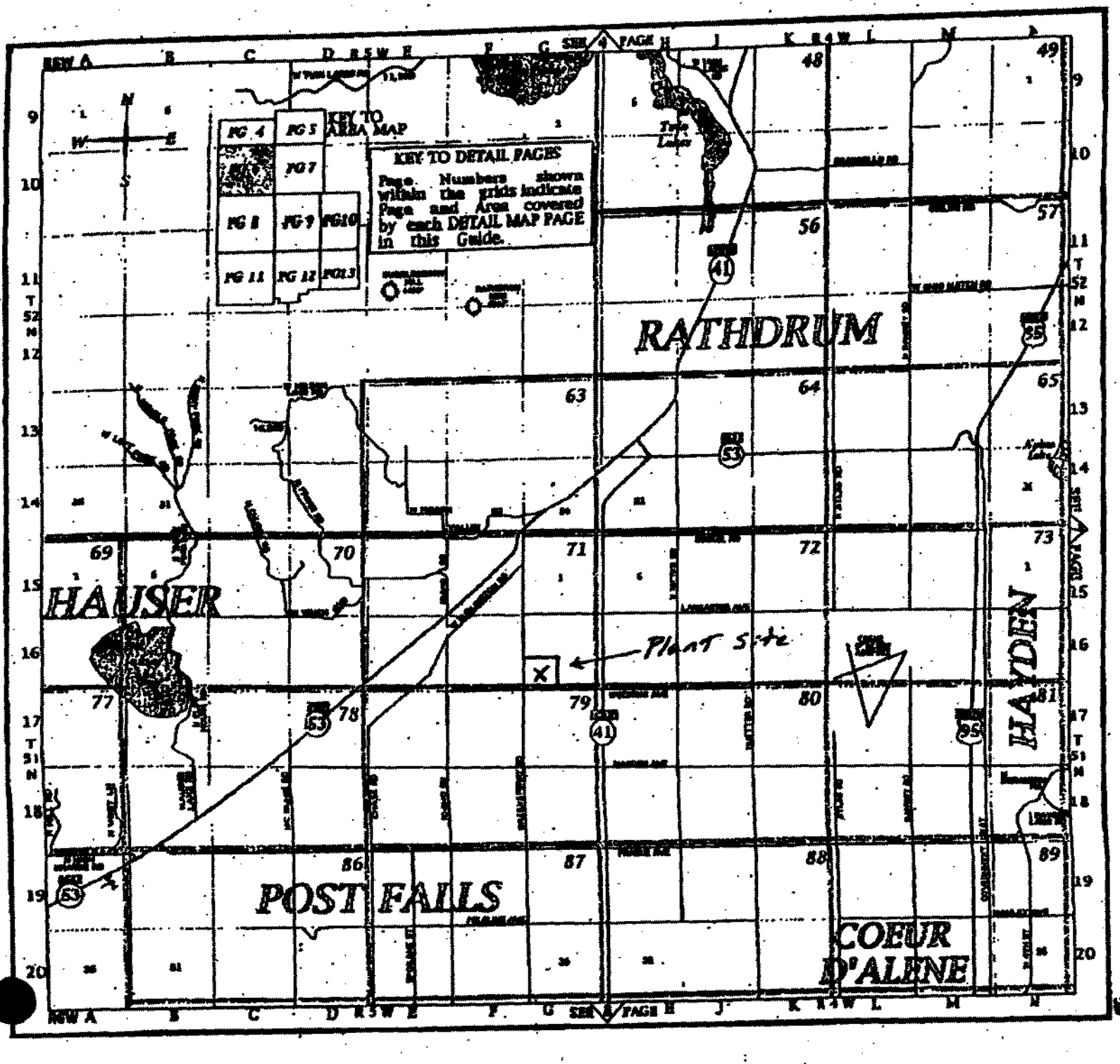
Pollutant	Uncontrolled Emissions		Controlled Emissions	
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr

**If units other than tons, please specify.*

APPENDIX B

FACILITY MAPS

6


KEY TO AREA MAP
KEY TO DETAIL PAGES
Page Numbers shown within the grids indicate Page and Area covered by each DETAIL MAP PAGE in this Guide.
RATHDRUM
HAUSER
POST FALLS
COEUR D'ALENE
HAYDEN
Plant Site

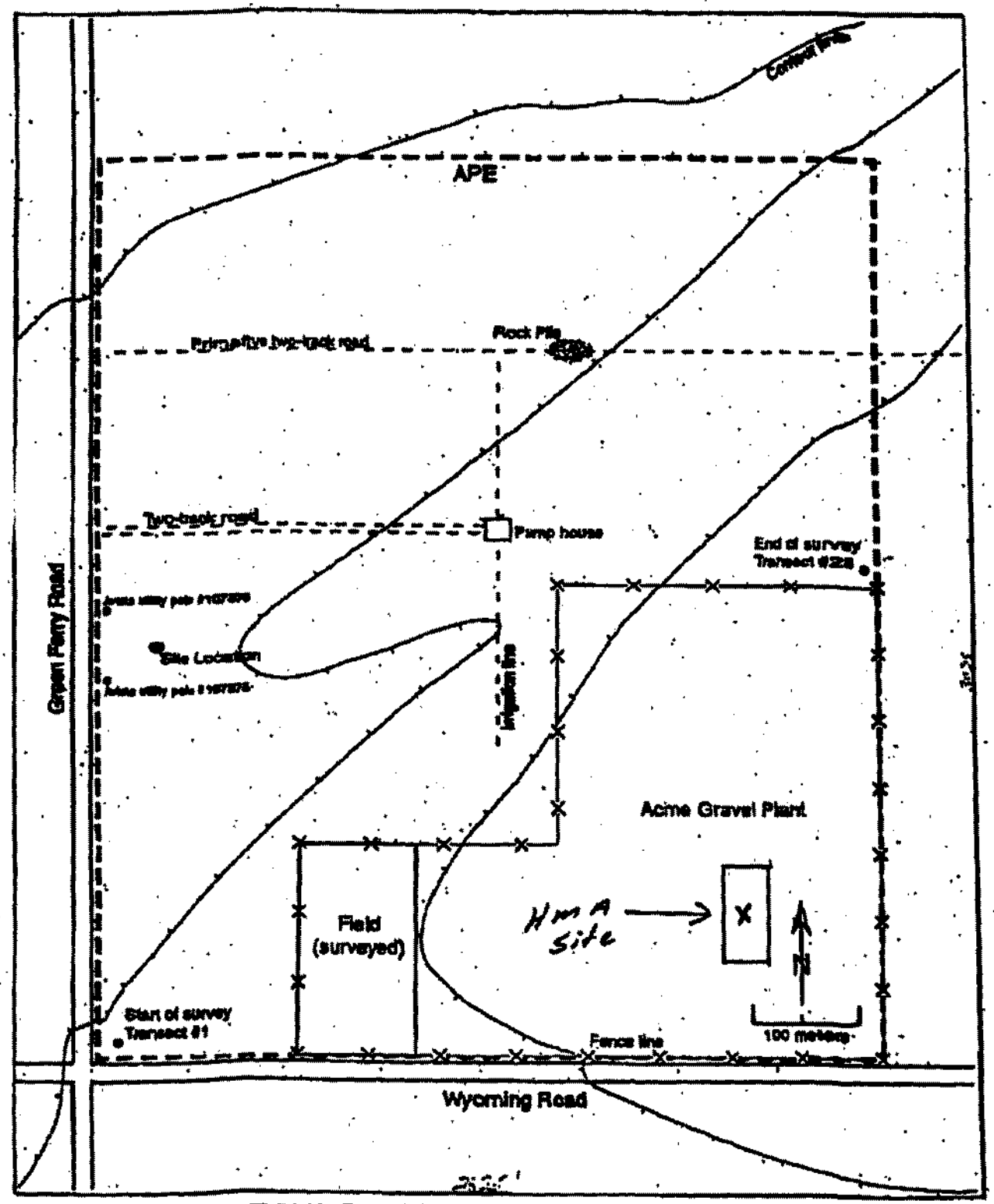


Figure 2. Survey Area. (T. 51 N., R. 5 W. Sec. 12.)

Northwest Archaeological Associates

APPENDIX C

EMISSION INVENTORY SPREADSHEETS

Interstate Concrete and Asphalt Company
Wyoming Asphalt Plant
Coeur d'Alene, Idaho
[illegible]

Counter Flow Drum Mix Asphalt Plant		Total HMA:	1,[illegible],000 Tons per year
Hours of Operation (hr/yr):	3700		
Production Rate (Tons/hr HMA):	400		
Modeled Concentration (ug/m³) @ 1 lb/hr:	1.[illegible]		
Fuel Types:	Used Oil/Fuel Oil/Natural Gas		
Pollution Control Equipment:	Baghouse		
AP-42 Edition:	[illegible]		

Pollutant	Emission Factor (lb/ton)	Emission Factor Reference	Factor Type	Emissions (ton/yr)	Emissions (lb/hr)	Idaho EL (lb/hr)	Modeled 1-hour Concentration (ug/m³)	Modeled 24-hour Concentration (ug/m³)	Modeled Annual Concentration (ug/m³)	Idaho AAC (ug/m³)	Idaho AAC/AACC (ug/m³)
NOx	[illegible]	AP-42, Table 11.1-7 [illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-		-	-
CO	[illegible]	AP-42, Table 11.1-7 [illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-		-	-
SO2	[illegible]	AP-42, Table 11.1-7 [illegible]	WO	[illegible]	[illegible]	-	[illegible]	-		-	-
VOC	[illegible]	AP-42, Table 11.1-8 [illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-		-	-
PM	[illegible]	AP-42, Table 11.1-3 [illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-		-	-
PM-10	[illegible]	AP-42, Table 11.1-3 [illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-		-	-
HCl	[illegible]	AP-42, Table 11.1-8 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
2,3,7,8 - TCDD (TEQ see note below)	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	-	-	-	-	-		-	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		-	-
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	-	-	-	-	-		-	-
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	-	-	-	-	-		-	-
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	-	-	-	-	-		-	-
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	WO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-10 [illegible]	FO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
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[illegible]	[illegible]	AP-42, Table 11.1-12 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]

Note: [illegible]

[illegible]

[illegible]

[illegible]

lb/hr Pounds per Hour
mg/m³ Milligrams per Cubic Meter
ug/m³ Micrograms per Cubic Meter
EL Emission Level
AAC Acceptable Ambient Concentration
AACC Acceptable Ambient Concentration for Carcinogens

Toxic Equivalency Quotient Calculation

Pollutant	Reduction Factor	Reduction Factor Reference	Factor Type	TEF	TEQ
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Interstate Concrete and Asphalt Company
Wyoming Asphalt Plant
Couer d'lane, Idaho
1/7/2003

Controlled Emissions Summary

Hours of Operation (hrs/yr): 3,700
Production Rate (Tons/hr HMA): 400
Total HMA: 1,480,000 Tons per year

Source	PM10 tons/yr	SO2 tons/yr	CO tons/yr	NOx tons/yr	VOC tons/yr
Proposed Dryer	17.02	42.92	96.20	40.70	23.68
Existing Batch Cement	0.80				
Existing Rock Crushing Plant Fugitives	59.40				
Total	77.22	42.92	96.20	40.70	23.68

APPENDIX D

SCREEN3 MODELING OUTPUT FILES

01/07/04
15:58:18

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Interstate Concrete and Asphalt - Wyoming Plant

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.126100
STACK HEIGHT (M)	=	9.1440
STK INSIDE DIAM (M)	=	1.4188
STK EXIT VELOCITY (M/S)	=	18.8922
STK GAS EXIT TEMP (K)	=	408.1500
AMBIENT AIR TEMP (K)	=	293.1500
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 26.269 M**4/S**3; MOM. FLUX = 129.009 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	257.74	3.95	3.93	NO
100.	0.4232E-01	6	1.0	1.0	10000.0	82.48	21.34	21.08	NO
200.	1.102	4	20.0	20.0	6400.0	20.00	15.74	8.81	NO
300.	1.950	4	20.0	20.0	6400.0	20.00	22.81	12.47	NO
400.	1.913	4	20.0	20.0	6400.0	20.00	29.67	15.68	NO
500.	1.667	4	20.0	20.0	6400.0	20.00	36.32	18.64	NO
600.	1.476	4	15.0	15.0	4800.0	25.03	42.98	21.73	NO
700.	1.311	4	15.0	15.0	4800.0	25.03	49.42	24.50	NO
800.	1.218	4	10.0	10.0	3200.0	34.00	56.03	27.71	NO
900.	1.133	4	10.0	10.0	3200.0	34.00	62.29	30.31	NO
1000.	1.058	4	8.0	8.0	2560.0	40.22	68.70	33.30	NO
1100.	0.9921	4	8.0	8.0	2560.0	40.22	74.84	35.26	NO
1200.	0.9288	4	8.0	8.0	2560.0	40.22	80.93	37.17	NO
1300.	0.8692	4	8.0	8.0	2560.0	40.22	86.97	39.02	NO
1400.	0.8136	4	8.0	8.0	2560.0	40.22	92.98	40.84	NO
1500.	0.7623	4	8.0	8.0	2560.0	40.22	98.94	42.60	NO
1600.	0.7267	4	5.0	5.0	1600.0	58.86	105.45	45.70	NO
1700.	0.7033	4	5.0	5.0	1600.0	58.86	111.32	47.35	NO
1800.	0.6794	4	5.0	5.0	1600.0	58.86	117.15	48.97	NO
1900.	0.6557	4	5.0	5.0	1600.0	58.86	122.95	50.56	NO
2000.	0.6690	5	1.5	1.5	10000.0	86.34	98.21	40.10	NO
2100.	0.6876	5	1.5	1.5	10000.0	86.34	102.43	40.89	NO
2200.	0.7042	5	1.5	1.5	10000.0	86.34	106.64	41.68	NO
2300.	0.7188	5	1.5	1.5	10000.0	86.34	110.84	42.45	NO
2400.	0.7327	5	1.0	1.0	10000.0	97.51	115.68	44.93	NO
2500.	0.7499	5	1.0	1.0	10000.0	97.51	119.83	45.66	NO
2600.	0.7656	5	1.0	1.0	10000.0	97.51	123.97	46.38	NO
2700.	0.7799	5	1.0	1.0	10000.0	97.51	128.10	47.09	NO
2800.	0.7928	5	1.0	1.0	10000.0	97.51	132.22	47.80	NO
[illegible]	[illegible]	5	1.0	1.0	10000.0	97.51	136.32	48.50	NO

3000.	0.8147	5	1.0	1.0	10000.0	97.51	140.42	49.19	NO
3500.	0.8502	5	1.0	1.0	10000.0	97.51	160.75	52.57	NO
4000.	0.8641	5	1.0	1.0	10000.0	97.51	180.83	55.81	NO
4500.	0.8534	5	1.0	1.0	10000.0	97.51	200.68	58.54	NO
5000.	0.8357	5	1.0	1.0	10000.0	97.51	220.31	61.16	NO
5500.	0.8352	6	1.0	1.0	10000.0	82.48	160.07	41.44	NO
6000.	0.8433	6	1.0	1.0	10000.0	82.48	172.85	42.72	NO
6500.	0.8467	6	1.0	1.0	10000.0	82.48	185.53	43.96	NO
7000.	0.8464	6	1.0	1.0	10000.0	82.48	198.10	45.16	NO
7500.	0.8380	6	1.0	1.0	10000.0	82.48	210.58	46.19	NO
8000.	0.8282	6	1.0	1.0	10000.0	82.48	222.97	47.19	NO
8500.	0.8173	6	1.0	1.0	10000.0	82.48	235.27	48.16	NO
9000.	0.8056	6	1.0	1.0	10000.0	82.48	247.50	49.09	NO
9500.	0.7934	6	1.0	1.0	10000.0	82.48	259.64	50.01	NO
10000.	0.7808	6	1.0	1.0	10000.0	82.48	271.71	50.90	NO
15000.	0.6556	6	1.0	1.0	10000.0	82.48	388.99	58.75	NO
20000.	0.5443	6	1.0	1.0	10000.0	82.48	501.39	63.83	NO
25000.	0.4642	6	1.0	1.0	10000.0	82.48	610.11	68.16	NO
30000.	0.4040	6	1.0	1.0	10000.0	82.48	715.89	71.95	NO
40000.	0.3193	6	1.0	1.0	10000.0	82.48	920.46	77.38	NO
50000.	0.2641	6	1.0	1.0	10000.0	82.48	1117.62	81.92	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

336.	1.988	4	20.0	20.0	6400.0	20.00	25.38	13.69	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	1.988	336.	0.

APPENDIX E

REFINED MODELING OUTPUT FILES

```
*** ISCST3 - VERSION 02035 ***
*** Interstate Concrete and Asphalt - Wyoming Plant                    ***
*** Model Executed on 01/15/04 at 11:24:10 ***
 Input File - F:\2003\ICA03117\Model\ICAWyomingPlant_90_HCHO.DTA

Output File - F:\2003\ICA03117\Model\ICAWyomingPlant_90_HCHO.LST

   Met File - F:\2003\ICA03117\MetData\Spokane_90.ASC

      Number of sources -          1
Number of source groups -          1
    Number of receptors -       4259
```

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
DRYER	0	0.66023E-01	507037.0	5291110.0	683.1	9.14	408.15	18.89	1.42	NO	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	DRYER ,

*** THE SUMMARY OF MAXIMUM ANNUAL (1 YRS) RESULTS ***

** CONC OF HCHO IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.03366 AT (507371.00, 5291654.00, 684.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.03320 AT (507471.00, 5291754.00, 684.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.03265 AT (507471.00, 5291854.00, 683.09, 0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.03189 AT (507571.00, 5291954.00, 683.61, 0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.03189 AT (507571.00, 5291954.00, 683.61, 0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.03189 AT (507571.00, 5291954.00, 683.61, 0.00)	DC	NA
	7TH HIGHEST VALUE IS	0.03137 AT (507371.00, 5291754.00, 683.09, 0.00)	DC	NA
	8TH HIGHEST VALUE IS	0.03092 AT (507571.00, 5291854.00, 684.00, 0.00)	DC	NA
	9TH HIGHEST VALUE IS	0.03036 AT (507471.00, 5291954.00, 682.90, 0.00)	DC	NA
	10TH HIGHEST VALUE IS	0.02924 AT (507321.00, 5291704.00, 683.09, 0.00)	DC	NA

INTERSTATE
CONCRETE & ASPHALT

c: Rea
Darlei
a RD.
Route to:
- Marelyn
- Cat R, SF,

RECEIVED
MAR - 1 2004
Department of Environmental Quality
State Air Program

February 27, 2004

Harbi Elshafei
Idaho Dept. of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Subject: Permit to Construct 55-00048 Modification, Rathdrum, Idaho

Dear Mr. Elshafei,

This letter is in response to our telephone conference this AM and I hope that it will clarify our intent.

1. RAP Lump Breaker: This is a cold feed bin that sits adjacent to the other aggregate cold feed bins at the plant. The only difference being it feeds a machine that is called a RAP Breaker that basically forces the RAP down through counter rotating drums that break up any oversize pieces prior to being dropped onto the main conveyor which feeds the plant drum. There are RAP crushers available however we have opted not to use one. I have enclosed copies of specifications for a RAP Breaker.

2. Concrete Batch Plant: You spoke of a proposed limitation of 5000 hours in the Permit Modification request. I cannot find any wording in the request that would reflect that. On page 2 paragraph 5 of the request it states that we are not requesting a change of limitations for the concrete batch plant.

3. Existing Crusher: The crusher that is listed in the currant permit has been somewhat cannibalized and no longer exists for all intensive purposes. All remaining parts will be removed. The only crushing that would take place would be done by a portable crusher as needed.

20263

845 West Kathleen Avenue • Coeur d'Alene, Idaho 83815 • (208) 765-1144 • FAX (208) 765-3773

4. The reason we are requesting a permit that would include an asphalt plant, concrete plant and crusher is that the permit would mirror the existing permit with newer equipment plus allow us to use a portable crusher as needed and not have a crusher sitting on site when not being in use. It is also understood that the crusher would be permitted in the State of Idaho and would not be using a generator for power at this site.

I will be sending you a flow diagram within a few days. Please contact me at 765-1144 if you need additional information to make the requested revision to our permit.

Sincerely,

Corky Witherwax
Aggregate Sales/
Environmental Manager

Encl: 2

Process Machinery, Inc.

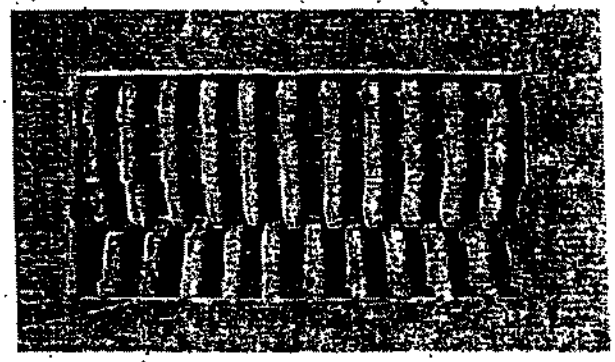
Asphalt Recycle --

Breakers, Crushers & Systems

PMI RAP Breaker

Process Machinery has manufactured this time proven quality roll style breaker for over 20 years.

Now you can buy direct!



Our hardened steel teeth mounted on counter-rotating drums will size RAP to plant requirements.

Rap Breaker Specifications:

- 25 hp direct coupled crusher duty motor
- Double reduction concentric shaft reducer with end-shelf type motor mount
- Hardened steel wear lips on drum teeth
- Extra large receiving hopper to accommodate up to a 36" wide conveyor
- Externally mounted heavy duty piloted flange bearings on drums

- Externally mounted drive tensioner
- Heavy duty abrasion resistant bolt in side wear liners
- Spring return floating drum for tramp iron reject
- Lubrication manifold is centrally located for ease of maintenance
- Production capacity of up to 150 TPH

Optional Features:
- Stationary drum cleaner assembly
- Tramp iron and oversize stone reject grizzly assembly
- Electromagnetic tramp iron removal assembly
- Free standing mounting platform to cover feed chute

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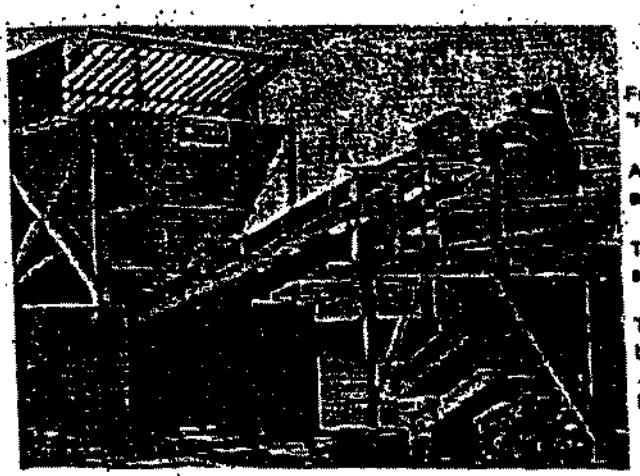
RAP Breaker & Recycle Systems



Feed material can contain up to "football" size conglomerated millings.

Adjustable Grizzly reject tramp iron and oversize material.

The breaker reduces millings to 1" or smaller.

The breaker has tramp iron protection built in.

Reduced RAP is conveyed to plant.

PMI Recycle Systems

- Custom Designed to fit your needs
- Stationary and portable designs are available
- Conveyors
- Screens
- Rap bins
- Grizzly feeders
- Horizontal shaft impact crushers
- Rap breakers
- Chutes
- Hoppers

- Whatever you need to create the system you want!

- PMI can provide turnkey solutions

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APPENDIX B

AIRS Information

P-040101

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Interstate Concrete and Asphalt Company
Facility Location: Rathdrum
AIRS Number: 055-00048

SO_2	B							U
NO_x	B							U
CO	SM					Y	SM80	U
PM_{10}	B							U
PT (Particulate)	B							U
VOC	B							U
THAP (Total HAPs)	B							A
			I					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

APPENDIX C

Modeling Analysis

P-040101

MEMORANDUM

TO: Harbi Elshafei, Program Office Permit Writer

THROUGH: Mary Anderson, Modeling Coordinator, Program office

FROM: Dan Pitman, Senior Engineer, Technical Services

DATE: April 2, 2004

PROJECT NUMBER: P-040101

SUBJECT: Modeling Review for Interstate Concrete and Asphalt, Rathdrum, Permit to Construct Application

---

1.0 Summary

Atmospheric dispersion modeling of facility-wide emissions was submitted in support of a permit to construct application to demonstrate that the stationary source would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02). The applicant conducted a full impact analysis on emissions of carbon monoxide, nitrogen dioxide and sulfur dioxide. Emissions of particulate matter were not modeled because emissions of particulate matter decreased as a result of the facility modification. The applicant used the SCREEN3 air dispersion model to determine ambient impacts of carbon monoxide, nitrogen dioxide, sulfur dioxide and 14 toxic air pollutants (TAPs). The applicant's SCREEN3 model results were below standards for all pollutants except formaldehyde. The applicant conducted a refined modeling analysis using the Industrial Source Complex (ISCST3) air dispersion model on emissions of formaldehyde.

Table 1. Key assumptions used in modeling analysis submitted by the applicant

Assumption	Explanation
No Downwash	The applicant simply stated that there was not building influenced downwash.
The facility assumed the asphalt plant would only operate 3,700 hours per year.	Only used in refined modeling analyses for formaldehyde emissions.
Particulate matter emissions are reduced as a result of the facility modification.	Facility is installing a baghouse.

The applicant did not account for downwash in it's air dispersion modeling exercises. DEQ conducted sensitivity analyses that accounted for downwash induced by buildings and structures that are adjacent to the stack. The results of DEQ's sensitivity analysis are presented in Section 4 of this memorandum. The submitted modeling analyses in combination with the DEQ Technical Services staff analyses: 1) utilized appropriate methods and models (as clarified by the DEQ staff analyses in Section 4 of the memorandum); 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed that predicted pollutant concentrations from facility-wide emissions, when appropriately combined with background concentrations, were below applicable air quality standards.

2.0 Background Information

2.1 Applicable Air Quality Impact Limits

The facility is located in Kootenai County which is designated as unclassifiable for all criteria pollutants. Table 2 summarizes all applicable significant contribution levels, National Ambient Air Quality Standards and acceptable ambient concentrations for all TAPs that are emitted above the TAP screening emission level.

Table 2. Applicable regulatory limits

Pollutant	Averaging Period	Significant Contribution Levels ($\mu g/m^3$)[a, b]	Regulatory Limit ($\mu g/m^3$)[c]	Modeled Value Used[d]
CO	8-hour	500	10,000[e]	Highest 2nd highest[f]
	1-hour	2000	40,000[e]	Highest 2nd highest[f]
SO_2	Annual	1	80[e]	Maximum 1st highest[g]
	24-hour	5	365[e]	Highest 2nd highest[h]
	3-hour	25	1,300[e]	Highest 2nd highest[h]
NO_2	Annual	1	100[i]	Maximum 1st highest[g]
2,3,7,8-TCDD	Annual	N/A	2.2E-08	Maximum 1st highest[g]
Acetaldehyde	Annual	N/A	0.45	Maximum 1st highest[g]
Arsenic	Annual	N/A	2.3E-04	Maximum 1st highest[g]
Benzene	Annual	N/A	0.12	Maximum 1st highest[g]
Benzo(a)pyrene	Annual	N/A	3.0E-04	Maximum 1st highest[g]
Cadmium	Annual	N/A	5.6E-04	Maximum 1st highest[g]
Chromium	24-hour	N/A	25	Maximum 1st highest[g]
Formaldehyde	Annual	N/A	7.7e-02	Maximum 1st highest[g]
HCL	24-hour	N/A	375	Maximum 1st highest[g]
Chromium (VI)	Annual	N/A	8.3E-05	Maximum 1st highest[g]
Nickel	Annual	N/A	4.2E-03	Maximum 1st highest[g]
Phosphorus	24-hour	N/A	5.0	Maximum 1st highest[g]
Propionaldehyde	24-hour	N/A	21.5	Maximum 1st highest[g]
Quinone	24-hour	N/A	20.0	Maximum 1st highest[g]

a. IDAPA 58.01.01.006.93
b. Micrograms per cubic meter
c. IDAPA 58.01.01.577 for criteria pollutants, IDAPA 58.01.01.585 for non-carcinogenic toxic air pollutants IDAPA 58.01.01.586 for carcinogenic toxic air pollutants.
d. The maximum 1st highest modeled value is always used for significant impact analysis and for all toxic air pollutants.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
f. Never expected to be exceeded in any calendar year.
g. Concentration at any modeled receptor.
h. Never expected to be exceeded more than once in any calendar year.
i. Concentration at any modeled receptor when using five years of meteorological data.
j. The highest 2nd high is considered to be conservative for five years of meteorological data.
k. Not to be exceeded more than once per year.

2.2 Background Concentrations

Table 3 gives the background concentrations that the State Air Quality Program Office provided for these analyses.

Table 3. Background concentrations.

Pollutant	Averaging Period	Background concentrations ($\mu g/m^3$)[a]
CO	1-hour	3,600
	8-hour	2,300
SO_2	3-hour	34
	24-hour	26
	Annual	8
NO_2	Annual	17

a. Micrograms per cubic meter.

3.0 Assessment of Submitted, Certified Modeling Analysis

3.1 Modeling Methodology

Aspen Consulting & Engineering, Inc. performed air dispersion modeling on behalf of Interstate Concrete and Asphalt Company. The applicant performed a full impact assessment for emissions of carbon monoxide, nitrogen dioxide, sulfur dioxide and all TAP emissions that are listed in Table 2. The applicant performed a screening modeling analyses using the SCREEN3 air dispersion model. The applicant's screening modeling analyses results showed that all pollutants except formaldehyde were emitted are rates that caused ambient impacts below applicable standards. A refined modeling analysis was conducted on emissions of formaldehyde using the ISCST3 air dispersion model. The applicant's refined model showed that emissions of formaldehyde caused predicted ambient impacts below the acceptable ambient concentration for formaldehyde. Table 4 summarizes the air dispersion model type and modeling parameters used by the applicant.

The applicant did not account for downwash in either their SCREEN3 or ISCST3 modeling exercises. Technical Services conducted a sensitivity analysis that accounted for downwash. Results of Technical Services sensitivity analysis are presented in Section 4 of this memorandum.

Table 4. Modeling parameters.

Parameter	What Facility Submitted	DEQ's Review/Determination
Modeling protocol	The applicant did not submit a modeling protocol.	NA
Model Selection	SCREEN3 – Version 96043 ISCST3 – Version 02035	These are appropriate versions.
Meteorological Data	ISCST3 – Spokane surface and upper air data.	These data sets are the most appropriate data available for use.
Model Options	ISCST3 Regulatory Defaults were used.	Regulatory defaults are appropriate.
Land Use	Rural	Rural land use is appropriate.
Complex Terrain	SCREEN3 - Assumed flat terrain ISCST3 - Considered Complex terrain both simple and complex	Complex terrain was handled appropriately. The area surrounding the facility is essentially flat based on review of USGS maps.
Building Downwash	Building Downwash was not considered.	Building downwash should have been included in the modeling exercises. DEQ's sensitivity analyses includes building downwash. See Section 4 of this memorandum.
Receptor Network	SCREEN3 – iterated to find maximum at or beyond fenceline. ISCST3 – 50 meters along fenceline, 100 meters out to 1 km, 250 meters out to 5 km, and 500 meters out to 10 km.	The receptor placement met the air quality modeling guidelines and was sufficient.
Facility Layout	N/A	The facility layout was verified by scaled plot plans submitted by the applicant on 1/26/04 and 3/22/04.

3.2 Emission Rates

Table 5 gives the pollutants, emissions rates and hours of operation that were submitted in the permit application and used in the screening modeling analyses.

Table 5. Emissions Rates

Pollutant	Emission Rate (lb/hr)	Hours per Day	Hours per Year
NO_x	22	24	8760
CO	52	24	8760
SO_2	23.2	24	8760
2,3,7,8 - TCDD	1.23E-9	24	8760
Acetaldehyde	0.52	24	8760
Arsenic	.0002	24	8760
Benzene	0.156	24	8760
Benzo(a)pyrene	0.0002	24	8760
Cadmium	0.0002	24	8760
Chromium	0.0022	24	8760
Formaldehyde	1.24	24	8760
HCl	0.084	24	8760
Chromium VI	0.0002	24	8760
Nickel	0.0252	24	8760
Phosphorus	0.0112	24	8760
Propionaldehyde	0.0520	24	8760
Quinone	0.064	24	8760

3.3 Emission Release Parameters

Table 6 gives the stack parameters for the asphalt plant dryer that is the only point source of emissions that was required to be modeled.

Table 6. Stack Parameters

	Point Source Dryer
UTM Easting	507,037 meters
UTM Northing	5,291,110 meters
Source Elevation[a]	683.1 meters
Height	9.14 meters
Exit Diameter	1.42 meters
Exit Gas Volume	29.9 cubic meters per second
Exit Gas Velocity	18.9 meters per second
Exit Gas Temperature	408.2 Kelvin

3.4 Results

These sections present the results based on the information submitted as certified by the applicant.

3.4.1 Applicant's Screening Analyses Results

The applicant conducted a screening model exercise on emissions of carbon monoxide, sulfur dioxide, nitrogen dioxide and the 14 TAPs listed in Table 5. The applicant stated that an emission rate of one pound per hour was modeled in SCREEN3 and a dispersion factor was developed. The screening dispersion factor determined by the applicant, and verified by DEQ, is 1.988 micrograms per cubic meter (one-hour concentration) per pound per hour of emissions. The applicant stated that

the actual pollutant emission rate was then multiplied by this dispersion factor and then by the appropriate persistence factor to determine the predicted ambient concentration for each relevant averaging period. Table 7 gives the results of the applicant's screening analyses that are presented in the certified application. Note that the only values in the Table 7 that match what the applicant stated are the annual modeled concentrations for sulfur dioxide and nitrogen dioxide. It is uncertain what the applicant's methodology was to obtain all the other modeled concentrations presented in Table 7. According to the applicant's submittal the only pollutant that exceeded an applicable standard was formaldehyde. The applicant conducted a refined air dispersion modeling analysis on emissions of formaldehyde.

Table 7. Summary of the Applicant's Screening Model Results

Pollutant	Emission Rate (lb/hr)[a]	Dispersion Factor ($\mu g/m^3$/lb/hr)[b]	Persistence Factor	Averaging Period	Modeled Concentration ($\mu g/m^3$)[c]
Carbon Monoxide	52.0	1.988	1	1-hour	122
			0.7	8-hour	86
Sulfur Dioxide	23.2	1.988	0.9	3-hour	49
			0.4	24-hour	22
			0.08	Annual	4
Nitrogen Dioxide	22.0	1.988	0.08	Annual	4
2,3,7,8-TCDD	1.23E-9	1.988	0.125	Annual	3.79E-19
Acetaldehyde	0.52	1.988	0.125	Annual	6.72E-02
Arsenic	0.0002	1.988	0.125	Annual	2.1E-04
Benzene	0.156	1.988	0.125	Annual	6.05E-03
Benzo(a)pyrene	0.0002	1.988	0.125	Annual	2.1E-04
Cadmium	0.0002	1.988	0.125	Annual	1.5E-04
Chromium	0.0022	1.98	0.4	24-hour	2.1E-3
Formaldehyde	1.24	1.988	0.125	Annual	0.382
HCl	0.084	1.988	0.4	24-hour	0.079
Chromium VI	0.0002	1.988	0.125	Annual	1.7E-04
Nickel	0.0252	1.988	0.125	Annual	2.37E-02
Phosphorus	0.0112	1.988	0.4	24-hour	1.06E-02
Propionaldehyde	0.0520	1.988	0.4	24-hour	4.89E-02
Quinone	0.064	1.988	0.4	24-hour	6.03E-02

a. Pound per hour
b. Micrograms per cubic meter per pound per hour
c. Micrograms per cubic meter

Table 8. Applicant's criteria pollutant ambient impact analysis results

Pollutant	Averaging Period	Facility Ambient Impact ($\mu g/m^3$)[a]	Background Concentration ($\mu g/m^3$)[a]	Total Ambient concentration ($\mu g/m^3$)[a]	NAAQS[b] ($\mu g/m^3$)[a]	Percent of NAAQS[b]
CO	1-hour	122	3,600	3,722	40,000	9.3
	8-hour	86	2,300	2,386	10,000	23.9
SO_2	3-hour	49	34	83	1,300	6.4
	24-hour	22	26	48	365	13.1
	Annual	4	8	12	80	15
NO_2	Annual	4	17	21	100	21

a. Micrograms per cubic meter
b. National Ambient Air Quality Standards

3.4.2 Applicant's Refined Modeling Analyses Results.

The applicant conducted a refined modeling analysis on emissions of formaldehyde using the ISCST3 air dispersion model. Table 9 presents the applicant's certified results for the refined modeling of formaldehyde emissions. The applicant's refined modeling analysis included limiting the asphalt dryer annual hours of operation to 3,700 hours per year. The applicant did not account for building and structure downwash in it's refined modeling analysis. All other aspects of the refined modeling analysis met DEQ modeling guidelines.

Table 9. Applicant's Formaldehyde Refined Modeling Analysis Results

Model Year	Modeled Emission Rate (lb/hr)[a]	Modeled Annual Concentration ($\mu g/m^3$)[b]	Idaho AACC ($\mu g/m^3$)[b]
1987	0.524	0.0252	0.077
1988		0.0316	
1989		0.0261	
1990		0.0337	
1991		0.0238	

a. Pound per hour

b. Micrograms per cubic meter

4.0 DEQ Sensitivity Analysis Results

The applicant did not account for building and structure downwash in air dispersion modeling. Technical Services conducted sensitivity analyses using the same ISCST3 input parameters that the applicant used except that Technical Services included all buildings and structures that are adjacent to the stack. The applicant provided the dimensions of all buildings and structures that surround the stack in an application supplement received by DEQ on March 22, 2004. Since there is only one point source of emissions that must be modeled an emission rate of one pound per hour was modeled for use in developing dispersion factors. Dispersion factors were determined for each averaging period in micrograms per cubic meter per pound per hour. Actual emissions of carbon monoxide, sulfur dioxide, nitrogen dioxide and the 14 TAPs listed in Table 5 were then multiplied times the appropriate dispersion factor to obtain the predicted ambient concentrations for each pollutant. All annual concentrations in Technical Services sensitivity analysis were determined based on 3,700 hours per year of operation. All 24-hour and shorter averaging periods are based on 24 hours per day of operation.

The results of Technical Services sensitivity analyses are presented in Table 10, as is a comparison to the applicant's dispersion modeling results. The differences between Technical Services modeled impacts and the applicant's modeled impacts are in part due to the fact that the applicant did not account for operating only 3,700 hours per year, except for in the case of formaldehyde, and the applicant did not include downwash.

Table 10. Results of Technical Services Sensitivity Analyses

Pollutant	Emission Rate (lb/hr)[a]	Dispersion Factor (µg/m³/lb/hr)[b]	Averaging Period	Technical Services Modeled Concentration (µg/m³)[c]	Applicant's Certified Modeled Concentration (µg/m³)[c]
Carbon Monoxide	52.0	6.72	1-hour[d]	349.4	122
		2.02	8-hour[d]	105.0	86
Sulfur Dioxide	23.2	3.25	3-hour[d]	75.4	49
		0.8	24-hour[d]	18.6	22
		0.077	Annual[e]	0.75	4
Nitrogen Dioxide	22.0	0.077	Annual[e]	0.72	4
2,3,7,8-TCDD	1.23E-9	0.077	Annual[e]	4.0E-11	3.79E-19
Acetaldehyde	0.52	0.077	Annual[e]	1.7E-2	6.72E-2
Arsenic	0.0002	0.077	Annual[e]	6.5E-6	2.1E-4
Benzene	0.156	0.077	Annual[e]	5.1E-3	6.05E-3
Benzo(a)pyrene	0.0002	0.077	Annual[e]	6.5E-6	2.1E-4
Cadmium	0.0002	0.077	Annual[e]	6.5E-6	1.5E-4
Chromium	0.0022	0.9	24-hour[d]	1.98E-3	2.1E-3
Formaldehyde	1.24	0.077	Annual[e]	4.0E-2	3.37E-2
HCl	0.084	0.9	24-hour[d]	0.076	0.079
Chromium VI	0.0002	0.077	Annual[e]	6.5E-6	1.7E-4
Nickel	0.0252	0.077	Annual[e]	8.2E-4	2.37E-2
Phosphorus	0.0112	0.9	24-hour[d]	0.010	0.0106
Propionaldehyde	0.0520	0.9	24-hour[d]	0.047	0.049
Quinone	0.064	0.9	24-hour[d]	0.057	0.0603

a. Pounds per hour
b. Micrograms per cubic meter per pound per hour
c. Micrograms per cubic meter
d. Highest 2nd highest
e. Maximum 1st highest

Tables 11 and 12 compare Technical Services sensitivity modeling results to the applicable standards.

Table 11. Technical Services criteria pollutant ambient impact analysis results

Pollutant	Averaging Period	Facility Ambient Impact (µg/m³)[a]	Background Concentration (µg/m³)[a]	Total Ambient concentration (µg/m³)[a]	NAAQS[b] (µg/m³)[a]	Percent of NAAQS[b]
CO	1-hour	349.4	3,600	3,949.4	40,000	9.9
	8-hour	105.0	2,300	2,405.0	10,000	24
SO_2	3-hour	75.4	34	109.4	1,300	8.4
	24-hour	18.6	26	44.6	365	12.2
	Annual	0.75	8	8.75	80	10.9
NO_2	Annual	0.72	17	17.72	100	17.7

a. Micrograms per cubic meter
b. National Ambient Air Quality Standards

Table 12. Technical Services toxic air pollutant ambient impact results

Pollutant	Technical Services Modeled Concentration ($\mu g/m^3$)[a]	Toxic Air Pollutant Standard ($\mu g/m^3$)[a]	Percent of Toxic Air Pollutant Standard
2,3,7,8-TCDD	4.0E-11	2.2E-8	0.18
Acetaldehyde	1.7E-2	0.45	3.8
Arsenic	6.5E-6	2.3E-4	2.8
Benzene	5.1E-3	0.12	4.3
Benzo(a)pyrene	6.5E-6	3.0E-4	2.2
Cadmium	6.5E-6	5.6E-4	1.2
Chromium	1.98E-3	25	0.008
Formaldehyde	4.0E-2	0.077	51.9
HCl	0.076	375	0.02
Chromium VI	6.5E-6	8.3E-5	7.8
Nickel	8.2E-4	4.2E-3	19.5
Phosphorus	0.01	5	0.2
Propionaldehyde	0.047	21.5	0.21
Quinone	0.057	20	0.29

a. Micrograms per cubic meter

APPENDIX D

PTC Processing Fee Calculations

P-040101

PTC Fee Calculation

Instructions:
Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Interstate Concrete, Rathdrum
Address: 845 West Kathleen Avenue
City: Coeur d'Alene
State: ID
Zip Code: 83815
Facility Contact: Corky Witherwax
Title: Environmental Manager
AIRS No.: 055-00048

N — Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y — Did this permit require engineering analysis? Y/N

N — Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Decrease (T/yr)	Net Emissions Change (T/yr)
NO_x	40.70	19.7	21.00
SO_2	42.92	0	42.92
CO	96.20	36.8	59.40
PM10	17.02	26.5	-9.48
VOC	23.68	0	23.68
TAPS/HAPS	7.05	0	7.05
Total:	227.57	83	144.6
Fee Due	$ 7,500.00		

Comments: Permit to construct processing fee, in accordance with IDAPA 58.01.01.225.

APPENDIX E

Response to Public Comments

P-040101

Response to Public Comments
Submitted During the Public Comment Period
for Interstate Concrete and Asphalt Company, Rathdrum
Permit to Construct No. P-040101
Facility ID No. 055-00048

As required by IDAPA 58.01.01.209.01.c of the Rules for the Control of Air Pollution in Idaho (Rules), the Idaho Department of Environmental Quality (DEQ) provided proposed Permit to Construct (PTC) No. P-040101 for Interstate Concrete and Asphalt Company (Interstate) located in Rathdrum, for public notice and comment. Public comment packages, which included the application materials, the proposed permit, and the associated air quality statement of basis, were made available for public review at DEQ's Coeur d'Alene Regional Office, Rathdrum Public Library, and DEQ's state office in Boise. A copy of the proposed PTC No. P-040101and the statement of basis was also posted on DEQ's Web site. The public comment period for the PTC was provided from June 1 through June 30, 2004.

The following is a summary list of all documents received from the public containing comments on the above referenced permit action.

1. Randy Tetzner Letter to DEQ, dated 6-30-04
2. Randy Tetzner Document to DEQ, dated 6-30-04

This section provides the air quality related comments submitted on the proposed action and DEQ's responses to those comments. Based on the application materials and the Rules, DEQ has responded only to those comments that directly relate to the air quality aspects of the permit.

1. Comments taken from Randy Tetzner Letter, dated 6-30-04

Comment No. 1

I have found this comment procedure confusing. I was so confused I was unaware of a similar permit request by Interstate to burn waste oil even closer to our home. I would like my comments about their Rathdrum Idaho facility to be added to the Hayden Lake comments, regardless if the comment period is over or not. I emailed Ms. Lechtenberg numerous times concerning start dates for comments and never received answers. As a result I did not know my rights, interstate should not be allowed to pollute and have DEQ mislead citizens about how the comment process works.

DEQ Response to Comment No. 1

A 30-day public comment period was provided from May 20 through June 18, 2004, for the proposed PTC for Interstate Concrete's Hayden Lake facility. A 30-day public comment period was also provided from June 1 through June 30, 2004, for the proposed PTC for Interstate Concrete's Rathdrum facility. Public comments were only received during the Rathdrum comment period. Per commenter request, DEQ considered the comments received for the Rathdrum permit also for the Hayden Lake permit.

In regards to proper public notification procedure, the public was notified of both comment periods through several methods. First, a legal notice for each public comment period was published in the Coeur d' Alene newspaper which provided information about the purpose of the comment period, dates of the public comment period, the address to submit public comments, and the location of materials for review (application, draft permit, and DEQ's analysis). In addition, public notice information was also provided on DEQ's website at www.deq.state.id.us which presents the same information as in the legal notice, and also allows the user to download copies of the draft permit and DEQ's analysis (known as the Statement of Basis) in PDF format. DEQ also maintains an interested parties list which provides email notification of all upcoming public comment periods. In addition to this list, an email notification of a public comment period is also provided to the person or persons who requested a public comment period on a specific permit. DEQ records indicate that the commenter was provided email notification on both comment periods.

2. Comments taken from Randy Tetzner Document, dated 6-30-04

Comment No. 2

"...By allowing this company to burn waste oil, we are already going to be the recipient of hundreds of tons of extra pollutants, and those are the ones the EPA finds in oil that is supposed to be good. Factor in the fact that as many as 16,000 different locations will be needed to get the oil and you have a nightmare of trying to ensure the contaminated oil stays away from Idaho. The actual figure of needed sites will probably go as high as 30,000 because many producers of waste oil only get their oil picked up every 2 to 3 months. Monthly pick-ups are not the norm. Most of the oil comes from business that have pickups every 2 to 3 months. The problem is that all the testing is done before the oil is ever even shipped. Oil can sit for weeks and months after it is tested, it can be further contaminated. Despite the fact that halogenated wastes are not a part of waste oil, contamination of waste oil has become so prevalent that it is routinely listed as an ingredient of waste oil. Anything can happen to waste oil when it is off site. The only way to ensure the law is followed is to have each and every shipment checked when it is delivered to Interstate. Hopefully the permit will be denied making this point moot. There is no way to track backwards were a contaminant came from. No one tests oil by the tanker load; the oil is tested on the producer's tanks farms, which have storage from 10,000 to 250,000 gallons. After the oil is put in a tanker there is no control over what can happen..."

DEQ Response to Comment No. 2

The permits for both facilities include the following requirements for used oil:

Used Oil Specifications

In accordance with 40 CFR 279.11, with the exception of total halogens which are limited to 1,000 ppm, used oil burned for energy recovery shall not exceed any of the allowable levels of the constituents and property listed in Table 2.3.

TABLE 2.3 USED OIL SPECIFICATIONS[1]

Constituent/property	Allowable level
Arsenic	5 ppm[2] maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash point	100 deg. F minimum
Total halogens	1,000 ppm maximum

1 The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).
2 Parts per million

Used Oil Fuel Certification

The permittee shall demonstrate compliance with the used oil fuel specifications in Permit Condition 2.9 by obtaining a used oil fuel certification from the used oil fuel supplier on an as-received basis. The certification shall include the following information:

- The name and address of the used oil supplier
- The measured concentration, expressed as ppm, of each constituent listed in Table 2.2
- The flash point of the used oil expressed as degrees Fahrenheit
- The analytical method or methods used to determine the concentration of each constituent and property (flash point) listed in Table 2.2
- The date and location of each sample
- The date of each certification analysis

Records of each certification shall remain on site for the most recent two-year period and shall be made available to DEQ representatives upon request.

This permit condition will ensure that the oil delivered at the site has a certification from the supplier on an as-received basis.

Comment No. 3

In the January 18th report, which was produced by Aspen Consulting & Engineering, Inc. they describe Interstates current set up as one, using natural gas. (Introduction 1.0) and that the new set up will have a "bag house" control. As I understand it the baghouse is to collect large particulate contamination that is only found when burning waste oil. The report continues to state that even though RAP is being swapped for cold aggregate, this would mean no increase in particulate contamination. I find this difficult to follow. Increasing production rates by 100 tons an hour, adding a bag house and burning waste oil will most definitely cause on increase in particulate emissions.

DEQ Response to Comment No. 3

A baghouse is a very effective control device for controlling particulate matter emissions. In most cases, the collection efficiency of a baghouse is greater than 99% for particulate matter. Regardless, the PM standard for this facility is 0.04 grains per dry standard cubic foot. The permittee is required to demonstrate compliance with this standard under worst-case normal operations which are, in this case, using RAP and burning used oil. To ensure the baghouse is operated optimally, the permittee is required to develop an O&M manual based on the baghouse manufacturers design operating specifications.

Comment No. 4

The report by Aspen also shows a drawing of an asphalt plant, presumably the one Interstate has. The drawing however is simply a plagiarized copy of EPA diagrams from their AP-42, Section 11 et seq. publication. The EPA has 3 such drawings, while one can clearly see Aspen used a altered copy, they did not cite the EPA publication as the original creator of the diagram, leading people to think they were looking at a diagram of what exists in Rathdrum at present. The EPA diagrams have either a RAP Bin & Conveyor or a Collector in the upper left of the diagrams. The one submitted as figure one in Aspen's report has neither. Does the Aspen diagram accurately depict what Interstate has in Rathdrum? Does the missing a RAP Bin & Conveyor or a Collector shown on EPA diagrams of asphalt mixing plants but not on Interstates submission mean anything? Is Interstate using new technology not even known to the EPA? Why are those items missing from Interstate's proposal diagram?

DEQ Response to Comment No. 4

The Aspen diagram in your comments was obtained from AP-42. On February 27, 2004, DEQ requested, via telephone, that Interstate submit a process description of the facility to better represent the actual HMA plant. On March 8, 2004, Interstate submitted to DEQ a modification to the flow diagram included in the original PTC application. DEQ used the modified flow diagram of the HMA plant and described it in the PTC process description of PTC No. P-040101. The eight cold feed bins and the conveyor are included in the process description (Section 2.1) of the permit. DEQ, however, included in the public comment package a flow diagram that was included in the original PTC application. For clarification, a copy of the actual plant flow diagram that was sent to DEQ on March 8, 2004 is included in Appendix F of the statement of basis.

Comment No. 5

PM_{10} is Particulate Matter; the report is 77.2 tons per year. Aspen does not give enough information for me to check the figures they are using to calculate PM_{10}. But in their spreadsheet in Appendix C they use the figure of .032 lb per ton. To arrive at the figure of 77.2 tons I see they added the PM_{10} from existing batch cement and exiting rock crushing plant fugitives, is this assumption correct? Also how does this new and higher PM_{10} amount affect our air? What can the particulate carry into the air from interstates site?

DEQ Response to Comment No. 5

Yes, Aspen's assumption is correct. The 77.22 T/yr of PM_{10} emissions was obtained by adding emissions from the following sources at the facility:

Proposed HMA Dryer = 17.02 T/yr
Existing Batch Plant Cement = 0.8 T/yr (Tier II operating permit No.055-00048, issued 11/27/02)
Existing Rock Crushing Plant (Fugitives) = 59.40 T/yr (Tier II operating permit No.055-00048, issued 11/27/02)

The 17.02 T/yr of PM_{10} emissions from the proposed HMA dryer were calculated by Aspen Engineering, and the emissions calculations were reviewed by Dan Pitman, DEQ's Senior Engineer. Emissions inventory for the criteria air pollutants, TAPs, and HAPs from the HMA dryer are included in Appendix A of DEQ's statement of basis. Here is how the 17.02 T/yr were obtained:

Given:

HMA Production Rate: 400 T/yr

Hours of Operation Limits: 3,700 hrs/yr

PM_{10} Emission Factor for Drum Mix Asphalt Plant: 0.023 lbs/T (Table 11.1-13, AP-42, Hot Mix Asphalt Plants, 3/04)

1 ton (T) = 2,000 lbs

Therefore, PM_{10} emissions = (400 T/hr)(3,700 hrs/yr)(0.023 lbs/T)(1 T/2,000 lbs) = 17.02 T/yr

The PM_{10} emissions from the proposed HMA dryer will be lower than the PM_{10} emissions from the existing dryer. The PM_{10} emissions from the existing dryer are 10.4 lbs/hr and 26.5 T/yr, whereas the PM_{10} emissions from the proposed HMA dryer will be 9.2 lbs/hr and 17.02 T/yr. Therefore, there will be a net decrease in PM_{10} emissions of 1.2 lb/hr and 9.48 T/yr as a result of replacing the old dryer with the new dryer.

Comment No. 6

In the modeling analysis from interstate that was reviewed, in Section 3.4.1 the reviewer states they are not aware of the methodology utilized by interstate to arrive at the figures they submitted in Table 7. It shows Interstate will also go over the acceptable levels of formaldehyde. If the reviewer is unsure how Interstate arrived at it's figures, how can the citizens of Idaho and my family be convinced the report is not flawed? How can we be sure Interstate has not submitted a proposal that is dangerous or otherwise illegal? There was also a comment from DEQ stating the Applicant's formaldehyde refined Modeling Analysis Results (Table 9 Section 3.4.2 of applicants modeling analysis Appendix C) this model was submitted because of high levels of formaldehyde emissions burning waste oil. This submitted model shows acceptable rates of formaldehyde. I do not understand the 1987 through 1991 data submitted, nor do I understand how the modeling was done. Seeing as how this is the first waste oil burning asphalt plant in N. Idaho these figures were probably developed on some theoretical level, and to my surprise are suddenly acceptable levels. The only way to get actual emission outputs is to burn the waste oil in Interstates Dryer and test the emissions several times over a period of a month or two. This submitted model to me has no basis in fact. The EPA supplies the data as to what is emitted when you burn waste oil in an asphalt plant and now suddenly some mathematician has submitted data, which miraculously lowers the rate of formaldehyde emissions? I think of this model as a sham.

DEQ Response to Comment No. 6

Section 3.4.1 of DEQ's modeling analysis technical memorandum states that "it is uncertain what the applicant's methodology was to obtain all other modeled concentrations presented in Table 7." Because of this uncertainty, DEQ performed a modeling sensitivity analysis. The results of the sensitivity analysis are presented in Table 10, Section 4.0 of DEQ's modeling technical memorandum, which compares the applicant's modeling results against DEQ's sensitivity analyses modeled results. All pollutants modeled by DEQ show compliance with National Ambient Air Quality Standards (NAAQS) and TAPs increments.

Formaldehyde is a TAP. The modeled formaldehyde emissions also showed compliance with the Acceptable Ambient Concentration for Carcinogens (AACC) value of 7.7E-02 ug/m^3. The modeled value is 4.0E-02 ug/m^3, which is less than the AACC value.

The facility is required to demonstrate compliance with NAAQS and the Acceptable Ambient Concentration for Carcinogens (AACC) and Non-Carcinogens (AAC). This demonstration is accomplished by using models and procedures required by the "Guideline on Air Quality Model" (40 CFR Part 51, Appendix W). The "1987 through 1991" refers to the years of meteorological data used in the model to estimate the ambient concentrations resulting from the proposed project. The "Guideline on Air Quality Models" (40 CFR 51, Appendix W) states: "the modeler user should acquire enough meteorological data to ensure that worst-case meteorological conditions are adequately represented in the model results."

Interstate Concrete used meteorological data from the National Weather Service station located at the Spokane Airport. Data was used for the years 1987 through 1991 because DEQ determined these years represent the most recent occurrence of worst-case weather conditions for air quality, meeting the requirement set in the "Guideline on Air Quality Models."

Comment No. 7

I do see from the information provided that Interstate is increasing the amount of pollutants in the air an additional 20 tons of NOR, an additional 43 tons of Sulfur Dioxide, it appears that by burning natural gas they did not produce this previously. One of the down sides of burning waste oil is the incredible amounts of sulfur dioxide produced, .055 lbs per ton. An additional 60 tons of Carbon Monoxide awaits each of us along with 24 tons of VOC's and eight tons of TAPS/HAPS. The report states we get 10 tons less of PM_{10} per year, I do not see how a reduction can be made using waste oil as the fuel. I see Interstate pays a $7,500.00 permit fee, is this annual or one time? Either way it is a cheap way to pollute the air.

DEQ Response to Comment No. 7

The increase of emissions for NO_x, SO_2, CO, and TAPs increments, when modeled, showed compliance with NAAQs—refer to Appendix A of DEQ's statement of basis.

Please refer to Response to Comment No. 5 to see the annual reduction in PM_{10} emissions rates calculations resulted from replacing the old dryer with the new one.

With regard to the $7,500.00 permit fee, it is a one time processing fee that the company paid in accordance with IDAPA 58.01.01.225. In accordance with IDAPA 58.01.01.225, the fee for a non-major new source or modification to existing source with increase of emissions of 100 tons per year shall be $7,500.00.

Comment No. 8

I was only able to find the following break down of how to calculate costs per ton to produce asphalt I have asked interstate how much natural gas is used and the cost of the natural gas to produce one ton of asphalt. These telephone calls go unreturned. Surprisingly the environmental manger, Corky Witherwax has no clue as to how much in natural gas does it cost to produce a ton of asphalt, nor was the company willing to tell me any cost savings they would realize by using waste oil. From the below information it seems one high cost is Salaries and Benefits using up 30% of the incoming cash flow. Interstate also has to support the people who do nothing but produce and deliver concrete. If it shows that there cost savings burning waste oil are minimal, why allow it? Burning waste oil emits a lot of contaminants into the air and is a breeding ground for unknown contaminants not even routinely tested for. I have a feeling the cost savings will be significant for the company to invest in this ability to burn waste oil. Therefore I believe the company will have the resources to test each and every load of waste oil once it arrives at its proposed Rathdrum site and before it is burned. There also needs to be included in the permit a contingency plan of what to do and who to call if they get a bad load of oil. This new hazardous material will also require upgrades with the current fire protection agencies Haz-Mat team. How much money will interstate be paying for this additional burden? Or perhaps I will have to pay it as an increase in my property taxes? I do not think that would be fair for the taxpayers to boot additional funding required keeping us safe. Eventually there will be a spill and Haz-Mat will have to respond, so who pays for their start up costs?

DEQ Response to Comment No. 8

The air quality permit addresses the requirements of IDAPA 58.01.01.200-228 for issuing permits to construct. With regard to used oil, the permit contains limits to assure associated air pollutant emissions do not exceed applicable standards. The permit requires that the used oil be certified on an as-received basis to assure the oil does not contain any contaminants in excess of the imposed limits.

Comment No. 9

Stack emissions need to be taken at least 8 times in the next 2 years to ensure other contaminants are not being introduced and that the alleged amounts deemed to be tolerated are not exceeded. After that require 2 stack emissions tests per year. It is unfair for one test a year at a known time, which would motivate anyone to ensure they burn cleaner.

DEQ Response to Comment No. 9

Performance testing is only required for PM emissions in accordance with 40 CFR 60.92. Limits placed on the concentration of the contaminants in the used oil are shown through modeling to not violate any respective ambient standard. As such, DEQ is not requiring testing of the waste oil contaminants. To assure the facility continues to meet the NSPS grain loading and opacity standards, emissions testing is required on a frequency of no less than once every five years.

Comment No. 10

DEQ should expand the testing for other heavy metals, the federal regulations gives the state the right to make on-spec oil requirements more stringent than federal regulations.

DEQ Response to Comment No. 10

DEQ requires that the facility conduct a PM emissions test. The operating temperature of a hot-mix asphalt plant is far below the melting point of any of the metals identified as contaminants in the used oil. Consequently, the metals should be emitted as particulate, which will be part of that is measured. So long as the facility meets the NSPS grain loading requirement and the used oil contaminants do not exceed the permit limits, compliance with ambient air quality standards will be demonstrated.
End.

APPENDIX F

HMA Plant Flow diagram

P-040101

COPY

INTERSTATE
CONCRETE & ASPHALT

March 5, 2004

Harbi Elshafei
Idaho Dept. of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Subject: Permit to Construct 55-00048 Modification Flow Chart, Rathdrum, Idaho

Dear Mr. Elshafei,

Enclosed you will find a flow chart for the requested permit modification. As you will see I have used the flow diagram for a counter-flow drum mix plant from AP42 for it does represent the configuration of the new plant. I have added to the diagram four (4) additional cold feed bins to better reflect the actual plant. By adding the cold feed bins, the through put of the plant is not increased. The added bins are to accommodate different sizes of aggregate for different types of asphalt mix.

Please contact me at 765-1144 if you need additional information to make the requested revision to our permit.

Sincerely,

Corky Witherwax
Aggregate Sales/
Environmental Manager

Encl: 1

845 West Kathleen Avenue • Coeur d'Alene, Idaho 83815 • (208) 765-1144 • FAX (208) 765-3773
P.O. Box 1113 • Sandpoint, Idaho 83864 • (208) 263-0538 • FAX (208) 263-5430

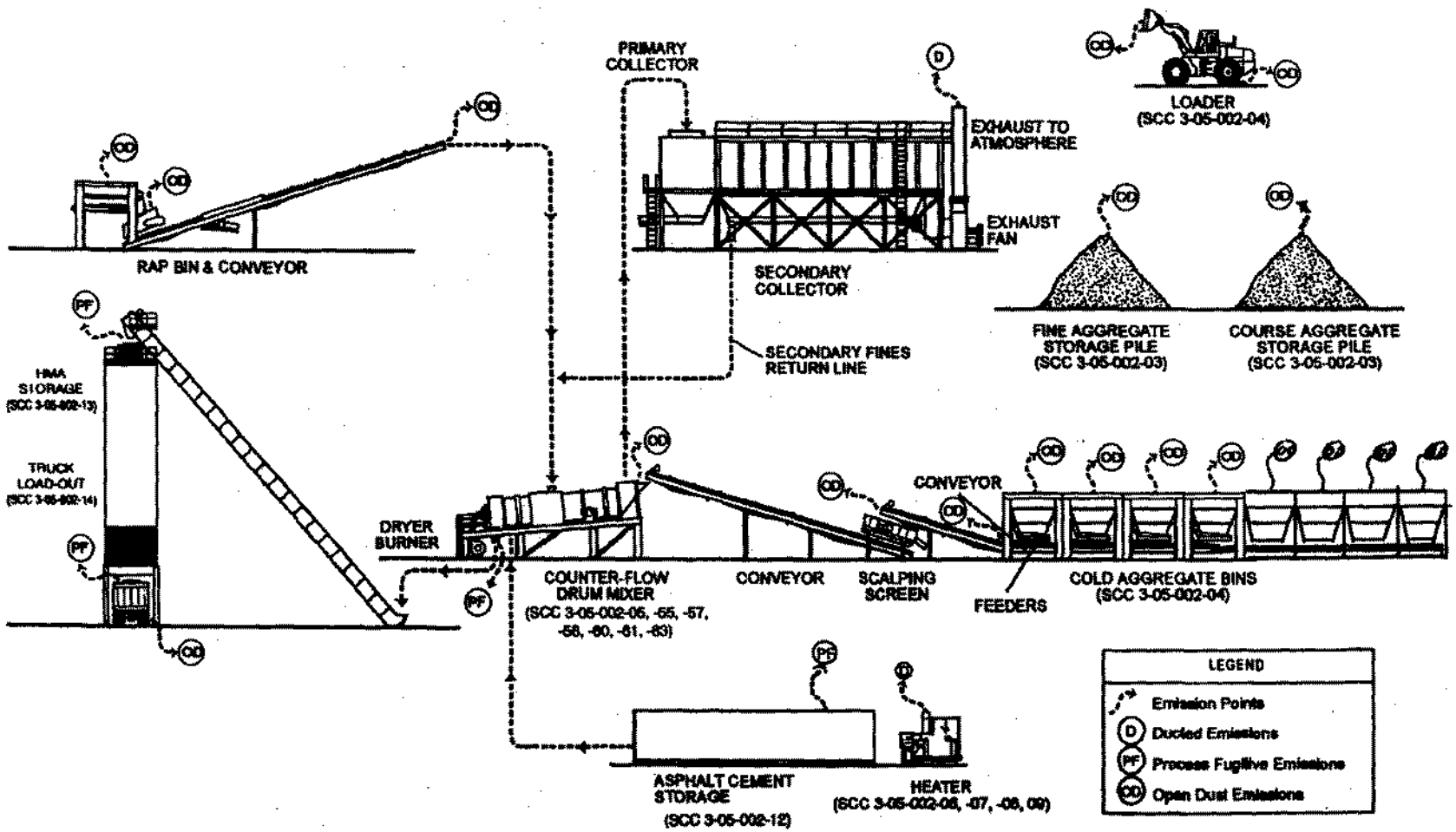


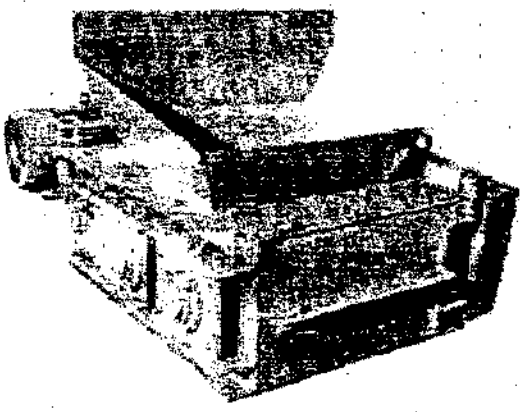
Figure 2-3. General process flow diagram for counter-flow drum mix asphalt plants (source classification codes in parentheses).[3]

Process Machinery, Inc.

Asphalt Recycle --

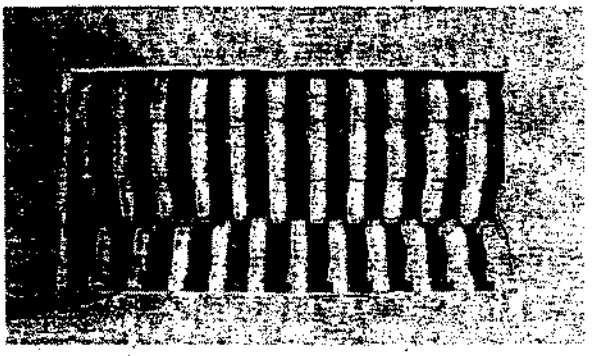
Breakers, Crushers & Systems

PMI RAP Breaker



Process Machinery has manufactured this time proven quality roll style breaker for over 20 years.

Now you can buy direct!



Our hardened steel teeth mounted on counter-rotating drums will size RAP to plant requirements.

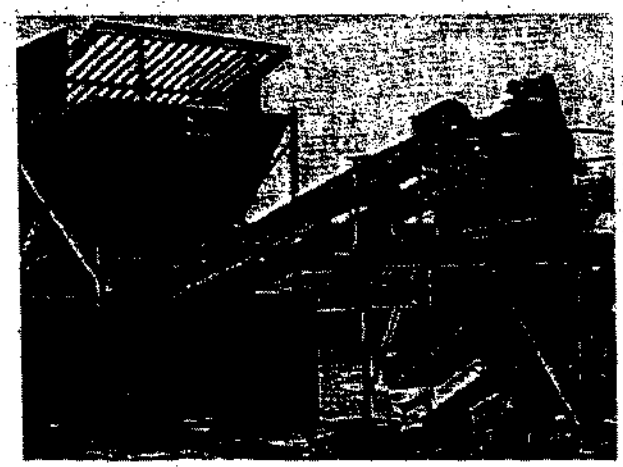
Rap Breaker Specifications:
- 25 hp direct coupled crusher duty motor
- Double reduction concentric shaft reducer with end-shelf type motor mount
- Hardened steel wear lips on drum teeth
- Extra large receiving hopper to accommodate up to a 36" wide conveyor
- Externally mounted heavy duty piloted flange bearings on drums

- Externally mounted drive tensioner
- Heavy duty abrasion resistant bolt in side wear liners
- Spring return floating drum for tramp iron reject
- Lubrication manifold is centrally located for ease of maintenance

- Electromagnetic tramp iron removal assembly
- Free standing mounting platform to cover feed chute

Back to Top

RAP Breaker & Recycle Systems



Feed material can contain up to "football" size conglomerated millings.

Adjustable Grizzly reject tramp iron and oversize material.

The breaker reduces millings to 1" or smaller.

The breaker has tramp iron protection built in.

Reduced RAP is conveyed to plant.

PMI Recycle Systems

- Custom Designed to fit your needs
- Stationary and portable designs are available
- Conveyors
- Screens
- Rap bins
- Grizzly feeders
- Horizontal shaft impact crushers
- Rap breakers
- Chutes
- Hoppers

- Whatever you need to create the system you want!

- PMI can provide turnkey solutions

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